

THE GAMMARIDEAN AND CAPRELLID AMPHIPODA
OF SOUTHERN AFRICA

by

C.L. GRIFFITHS
(C.S.I.R. OCEANOGRAPHIC RESEARCH UNIT,
UNIVERSITY OF CAPE TOWN)

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CONTENTS

SUMMARY

THE AMPHIPODA OF SOUTHERN AFRICA

- Part 1. The Gammaridea and Caprellidea of southern Moçambique.
Ann.S.Afr.Mus. 60 : 265-306.
- Part 2. The Gammaridea and Caprellidea of South West Africa south of 20°S.
Ann.S.Afr.Mus. 62 : 169-208.
- Part 3. The Gammaridea and Caprellidea of Natal.
Ann.S.Afr.Mus. 62 : 209-264.
- Part 4. The Gammaridea and Caprellidea of the Cape Province east of Cape Agulhas
Ann.S.Afr.Mus. 65 : 251-336.
- Part 5. The Gammaridea and Caprellidea of the Cape Province west of Cape Agulhas.
Ann.S.Afr.Mus. (in preparation)

A GUIDE TO THE BENTHIC MARINE AMPHIPODS OF SOUTHERN AFRICA, 0-1000m.

ZOOGEOGRAPHICAL CONSIDERATIONS

SUMMARY

It is the intention of this thesis to bring together the existing scattered data concerning the Amphipoda of southern Africa, to add records from unidentified collections and to present the whole in a form that will provide a firm basis for future work in this field.

The collections examined are principally those of the University of Cape Town, the South African Museum and the National Institute for Water Research. These collections are together much larger than any previously reported from southern Africa (in excess of 90 000 specimens from several thousand stations). Findings are presented in a series of five regional papers. Each paper includes brief descriptions of principal collecting areas and their faunas and an analysis of species collected. Station data, references and distributions are provided for all species, while a short diagnosis is given with the first reference to each species.

A total of 299 gammaridean and caprellid species is recognised. One family (Temnophliidae), four genera (Chaka, Cunicus, Dikwa, Janice) and 39 species are described as new to science; while 21 others are recorded from southern Africa for the first time. Nine existing species are relegated as synonyms.

Following the five regional taxonomic papers a synoptic guide to the benthic amphipods of the region is provided. This is intended to provide the non-specialist with a means of identifying his own material. A brief guide to methods of collection, storage and examination is provided and is followed by comprehensive fully illustrated keys to the families, genera and species of gammaridean and caprellid Amphipoda recorded from Africa south of 20°S, 0-1000m.

The figures cover virtually all species, including many never before illustrated and will hopefully reduce the need for

exhaustive knowledge of morphological nomenclature, or of extensive reference facilities, before identifications can be made.

An appendix provides reference to more detailed descriptions of each species, gives their distributions world-wide and within southern Africa, and lists common synonyms.

A concluding chapter discusses modes of dispersal of amphipods and possible origins of the southern African fauna. The region can apparently be divided into tropical, subtropical and temperate provinces, the first two dominantly populated by species of tropical origins and the third rich in endemic forms. This pattern is paralleled in other groups such as the polychaeta. It is concluded that although southern Africa is rich in endemic species and genera it is not a centre for the evolution of major taxa but rather an evolutionary outpost where immigrant forms have evolved under reduced pressure.

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PART I
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SOUTHERN MOZAMBIQUE

By
C. L. GRIFFITHS

Cape Town Kaapstad

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PART I

THE GAMMARIDEA AND CAPRELLIDEA OF SOUTHERN MOÇAMBIQUE

By

C. L. GRIFFITHS

C.S.I.R. Oceanographic Research Unit, Zoology Department, University of Cape Town

(With 11 figures)

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CONTENTS

	PAGE
Introduction	265
The collecting stations	266
Systematics	273
Gammaridea	274
Caprellidea	302
Summary	304
Acknowledgements	304
References	304

INTRODUCTION

The first comprehensive works on the Crustacea of southern Africa were those of T. R. R. Stebbing, culminating in his 'General catalogue of South African Crustacea' in 1910, which was largely based on the extensive collections of the S.S. *Pieter Faure*. K. H. Barnard continued to analyse the *Pieter Faure* material and in 1916 published descriptions of many new species and records, to be augmented in 1925 by a report on the last portion of the collection, bringing the total number of recorded species to 207. Barnard went on to publish more descriptions and a key to known species in 1940, and further additions to the fauna were forthcoming in 1951, 1955 and 1957.

Despite this excellent background, South African Amphipoda have subsequently been almost completely neglected, although collecting has continued unabated and many new records and undescribed species have undoubtedly accumulated, especially in the extensive collection of the University of Cape Town Ecological Survey.

It is in the light of these new data and of recent extensive taxonomic revisions that the decision has been made to synthesize existing knowledge of the South African amphipod fauna.

Mr Roy Dick has recently (1970) produced a key to, and distribution list of the Hyperiidea of southern Africa and it is the aim of the present work, and subsequent ones of a series, to cover the Gammaridea and Caprellidea of the same area (Africa south of 20°S) on a regional basis.

Moçambique has been selected as the subject of the first paper, since no previous literature specifically on the amphipods of this area appears to exist, although a checklist and key to the species of Inhaca Island (Macnae & Kalk 1958), descriptions of new species from Morrumbene estuary (Barnard 1916, 1955) and a key to common species of southern Africa (Day 1969) have appeared. Moreover, the recent International Indian Ocean Expedition, resulting in Ledoyer's work (1967*a, b*) on the Amphipoda of Malagasy has prompted the author's interest in the fauna of the mainland of Moçambique.

Data for this paper were provided by the following:

(a) An extensive survey of Morrumbene estuary by the Zoology Department of the University of Cape Town, involving visits in 1953, 1954, 1955 and 1968. During these expeditions to Moçambique, exploratory collections were also taken at Lagoa Poelala, Maxixe and Jangamo reef and the data from these collections are also included.

(b) Collections from Inhaca Island and Ponta Zavora made by a team of biologists from the South African Museum, Cape Town, in June 1971, and kindly loaned by them to the author.

(c) A series of dredge samples taken by the S.S. *Anton Bruun* during an International Indian Ocean Expedition cruise in 1964.

(d) Information has also been drawn from collections taken at Inhaca Island by the University of the Witwatersrand (Macnae & Kalk 1958, 1962*a, b*).

THE COLLECTING STATIONS

Fig. 1

Morrumbene estuary

Fig. 2

Description

This rich estuary, fed by the Morrumbene, Inhanombe and other minor rivers, opens into the northern end of Inhambane Bay (at 23°40'S/35°20'E). The Inhanombe is the largest of the rivers, flowing northwards through mangrove swamps before reaching a broad mixing basin between the San José Mongué mission station and Morrumbene village. The shallow mixing basin is about 2-3 kilometres wide at flood tide, its banks are mainly muddy in the upper reaches, except for a few sandy areas around Tinga-Tinga; but from the mission station to the mouth the banks are sand and the bottom sandy mud. The tortuous Inhanombe channel is about two metres deep opposite the mission station and reaches a maximum depth of 20 metres at Linga-Linga.

Tidal range at springs is about three metres at Mongué decreasing to two metres at Tinga-Tinga. Salinity (at high and low tides respectively) varied between 35‰ and 31.2‰ at Linga-Linga, 34.4‰ and 22.9‰ at Mongué, and between 33.8‰ and 11.8‰ at Tinga-Tinga.

The banks of the estuary are lined with at least three genera of mangrove

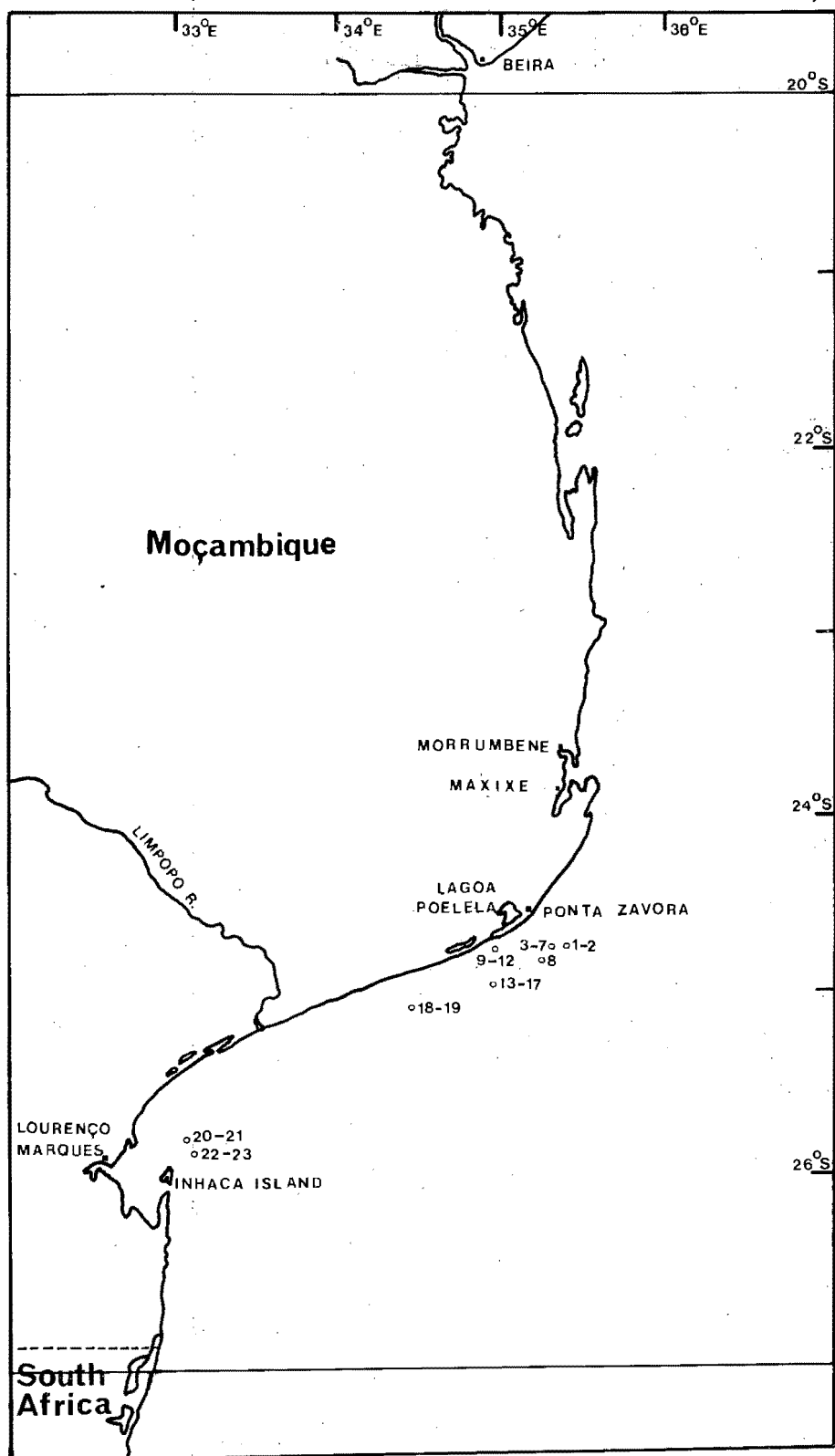


Fig. 1. Collecting stations in southern Moçambique (20° to 27° S) with PED stations numbered.

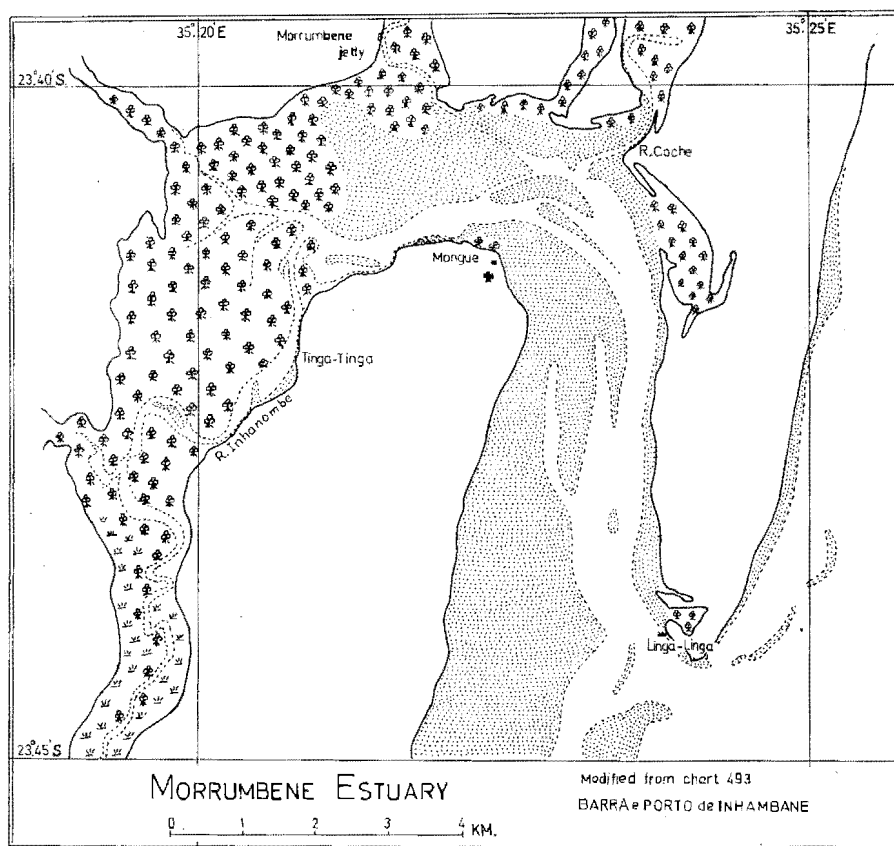


Fig. 2. Morrumbene estuary (after Day, unpublished).

including *Avicennia*, *Rhizophora* and *Ceriops*, these give way to *Phragmites*, *Barringtonia* and *Acrostichum* where salinity falls below 10‰. In the mixing basin sea grasses such as *Halodule* and *Cymodocea* are common near low water springs.

The survey of Morrumbene formed part of the University of Cape Town's estuarine survey series and a paper on the ecology of the estuary is in preparation by J. H. Day. Twenty-two species of amphipod were recovered during the survey. Both the absolute number of individuals and the number of species decreased in areas of low salinity.

Eighteen species were present in the mixing basin, of these only six were at all common (*Cheiriphotis megacheles*, *Grandidierella bonnieri*, *Hyale inyacka*, *Laetmatophilus purus*, *Lembois teleporus* and *Talorchestia australis*). Above Tinga-Tinga seven species were recorded, none of them common.

One particularly euryhaline species worthy of mention is *Grandidierella bonnieri* which was found from Linga-Linga to Tinga-Tinga and also recovered from a fresh-water lake adjoining Lagoa Poelela.

Station list

Catalogue number	Date	Position	Substrate
MOR 30	19/1/54	Midchannel, Tinga-Tinga LWS	Sandy mud
MOR 31	19/1/54	In dense mangroves, Tinga-Tinga	Mud
MOR 37	20/1/54	Mid-tidal level, Linga-Linga	<i>Halodule</i> marsh
MOR 40	20/1/54	Midtide rocks, Linga-Linga	Rock
MOR 41	20/1/54	LWS, Linga-Linga	<i>Halodule</i> marsh
MOR 45	20/1/54	Dredge 6-9 m, Linga-Linga	—
MOR 52	21/1/54	Netting in mouth of Rio Coche	—
MOR 74	24/1/54	Netting at Mongué ferry	<i>Halodule</i> beds
MOR 75	18/1/54	Midtide at Mongué ferry	Sand
MOR 77	23/7/53	Diving 2-3 m, Linga-Linga	Sand and weed
MOR 85	11/7/54	Above HWS at fern bank	Mangrove roots
MOR 95	3/7/54	Handnetting (location?)	Aquatic vegetation
MOR 102	14/7/54	Netting at Linga-Linga	<i>Halodule</i> and <i>Cymodocea</i>
MOR 108	14/7/54	Dredge 1.5-4 m, Linga-Linga	Sand with <i>Cymodocea</i>
MOR 122	15/7/54	Dredge off Linga-Linga	—
MOR 124	15/7/54	Plankton netting, Linga-Linga	—
MOR 147	16/7/54	Netting, mouth of Rio Coche	—
MOR 179	18/7/54	Mangroves at Mongué ferry	—
MOR 180	18/7/54	Mongué ferry, HWS	Sand
MOR 193	19/7/54	Linga-Linga	Sand
MOR 212	15/7/54	LWS, Mongué ferry	Mangroves?
MOR 218	13/7/54	From wreck, Linga-Linga	Ship's hull
MOR 232	12/7/54	Rio Coche	—
MOR 238	12/7/54	Opposite Rio Coche	Sand
MOR 240	12/7/54	Opposite Mongué ferry	Mud
MOR 243	12/7/54	Mongué ferry	—
MOR 244	12/7/54	Mongué ferry	—
MOR 250	12/7/54	Tinga-Tinga	Mangroves
MOR 253	12/7/54	Fern bank	<i>Acrostichum</i>
MOR 255	12/7/54	Head of estuary of Inhanombe River	—

Subsidiary collections made during the expeditions to Morrumbene

(a) *Jangamo Reef* lies 96 kilometres south of Inhambane Bay at 24°06'S/35°30'E. A party of biologists from the University of Cape Town, led by Professor J. H. Day, visited the area from 7 to 10 July 1968. The reef was found to be of flat sandstone transected by gulleys and covered by shallow pools, the rock extending from high water neaps to low water springs. *Ulva* was dominant at higher levels, below which there was an area of red algal turf running to low water springs. At low tide *Idanthyrsus* formed large encrustations and zoanthids, algae, sponges, ascidians and hydrozoans fringed the gulleys. Corals were present but not abundant.

The dominant intertidal amphipods were *Elasmopus affinis* and *Elasmopus japonicus* which were present in approximately equal numbers and together accounted for over 75% of the collection. Of the 14 other species recorded, *Caprella equilibra* and *Cheiriphotis megacheles* were the most common.

Station list

Catalogue number	Date	Position
JAN 12, JAN 14	8/7/68	General collection of amphipods

(b) *Lagoa Poelela* ($24^{\circ}33'S/35^{\circ}05'E$), one of a series of brack-water lagoons forming a chain along the coast, was briefly visited by a team of University of Cape Town zoologists in January 1954. The lagoon was 30 kilometres long and 5 kilometres wide, the shore clean sand and the water crystal clear without any signs of aquatic vegetation and little sign of aquatic life. At the time of sampling salinity near the shore was 6,5‰ and the temperature at the surface was $19,5^{\circ}\text{C}$.

Only three amphipods were found in the lagoon, *Orchestia ancheidos* was common in weed along the drift-line, *Grandidierella bonnieri* in sand along and above the watermark and *Melita zeylanica* in the weedy shallows. With the exception of *O. ancheidos*, the same species were recovered from an adjoining freshwater lake.

Station list		
Catalogue number	Date	Position
POE 1	26/1/54	Netting along the shore
POE 3	26/1/54	Digging between <i>Juncus</i> plants 30 cm above water level
POE 6	26/1/54	Digging in waterlogged sand on shore
POE 8	26/1/54	In weed along driftline
POE 10	26/1/54	Handnetting in weed on the margin of a shallow freshwater lake south-west of the lagoon
POE 12	26/1/54	Collecting along margin of freshwater lake

(c) *Maxixe*. The township of Maxixe, which lies 19 kilometres south of Morrumbene estuary on the western shore of Inhambane Bay, was visited briefly in July 1953.

A rapid examination of the shore revealed only two species of amphipod, *Lembos podocerooides* and *Chevalia aviculae*, both at low tidal levels on the sand banks and piles of the wharf.

Station list		
Catalogue number	Date	Position
PEA 2	24/7/53	General collection from low tide sand banks and piles, Maxixe
PEA 4	24/7/53	General collection from low tide sand banks and piles, Maxixe

Inhaca Island

Fig. 3

Detailed ecological descriptions of Inhaca Island may be found in Kalk (1958), Macnae & Kalk (1958) and Kalk & Macnae (1962*a, b*). The island lies at the tip of the Inhaca peninsula, forming an eastern boundary to Delagoa Bay. It is centred at $26^{\circ}01'S/32^{\circ}56'E$ with a maximum length of 11 kilometres and a width of 6 kilometres. The mangrove fringed northern bay and the Saco da Inhaca in the south contain extensive mud flats dominated by *Halodule* and *Cymodocea* through which narrow channels run. The Saco is more rocky than the northern bay and there is a young coral reef near Ponto Torres.

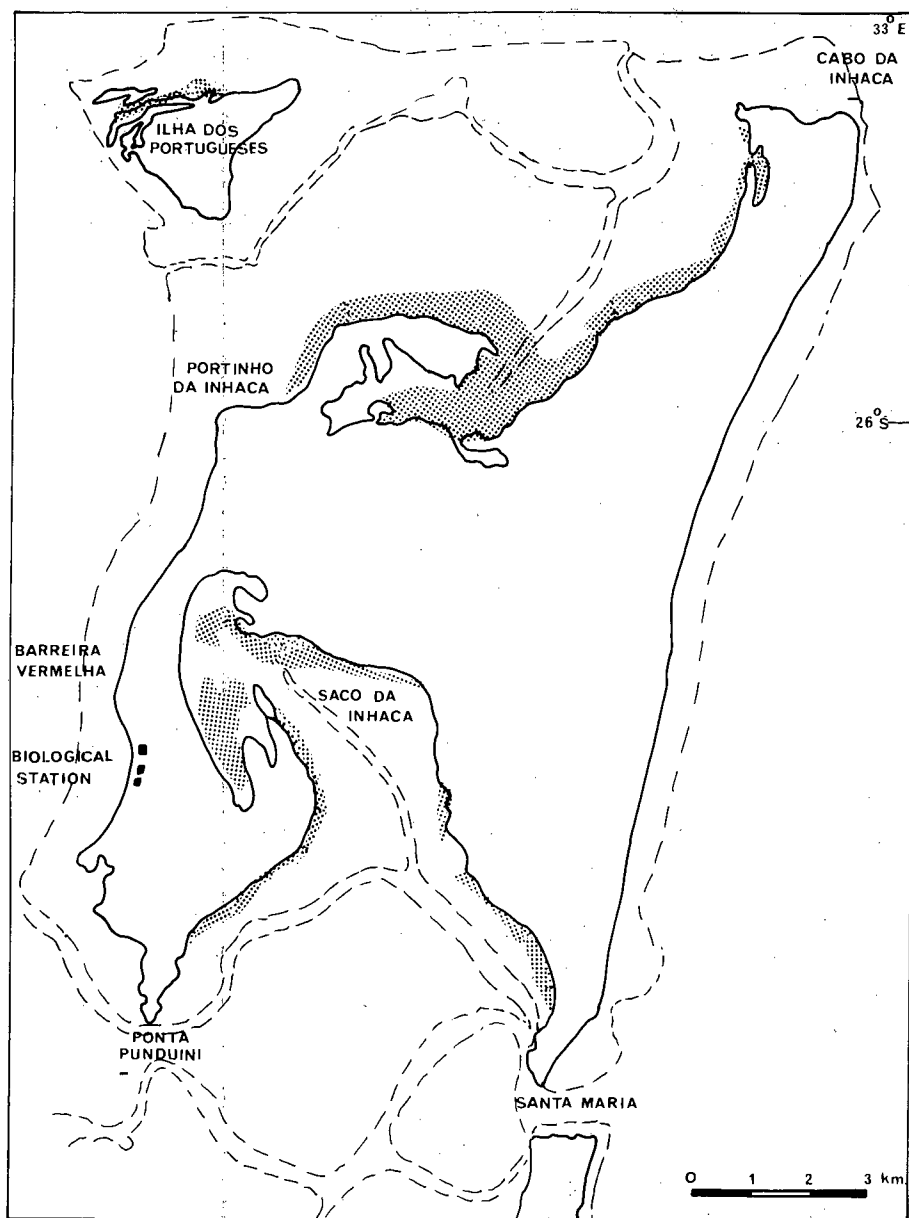


Fig. 3. Inhaca Island, showing features referred to in the text (after Macnae & Kalk, 1958).

The west coast, which borders shallow Delagoa Bay, exhibits intertidal sand flats up to 1 kilometre wide. These are often covered by coral debris or *Cymodocea* and opposite Barreira Vermelha there is a coral reef.

The eastern shore is exposed to the surf and is rocky along its whole length, though the rocks are usually only at intertidal levels. At Cabo da Inhaca there are three rock terraces, the highest not now immersed at any state of tide.

The island provides an extremely wide range of habitats, rock and sand being present in both exposed and sheltered areas at all tidal levels. Moreover, the landward side of the island, bathed by the warm waters of shallow Delagoa Bay, apparently represents an isolated area of true tropical fauna, while the open coast is considered subtropical, with coral growing on the rocks, rather than forming true reefs.

A collection of amphipods was made on the island by a team from the South African Museum in June 1971 and these, together with the species recorded by Macnae & Kalk, reveal a total of 22 species. Of the 16 species recovered during the South African Museum's brief collecting visit, 11 were new to Inhaca, an indication of the number of species still to be discovered.

The fauna is best grouped according to area of occurrence. In the northern bay, only one species is found, *Orchestia anomala*, which is common along the drift line. The eastern seaboard is also sparsely populated, only *Hyale grandicornis*, *Stenothoe valida* and a species of *Podocerus* having been found.

The southern bay is the richest area with 16 recorded species. Important among these are *Maera hamigera* and *Maera inaequipes*, which are common in coral. *Cymadusa filosa*, *Ampithoe ramondi*, *Elasmopus affinis* and *Talorchestia australis* are common intertidally.

On the more muddy, sheltered west coast, 13 species have been found. *Cymodocea* is a habitat favoured by *Erichthonius brasiliensis*, *Cymodusa filosa*, *Caprella scaura* and *Aora typica*, while *Orthoprotella mayeri* is common on the hydroid *Lytocarpus*. *Maera hamigera* and *Maera inaequipes* once again occur in coral. At high intertidal levels *Orchestia anomala* occurs among *Bostrychia*, *Hyale inyacka* under rocks on sand and *Talorchestia australis* under weed on the drift line.

Station list

Catalogue number	Date	Position
IN 158	June 1971	In a sponge, Saco da Inhaca
IN 159	June 1971	General collection, Santa Maria
IN 160	June 1971	General collection on mud, west coast
IN 161	June 1971	On <i>Cymodocea</i> , west coast

During their visit to Inhaca, biologists from the South African Museum also briefly visited Ponta Zavora (30°02'S/35°10'E) where they found five species of amphipod in the intertidal zone. *Elasmopus japonicus* and *Cymodusa*

filosa were fairly common, while single specimens of *Gammaropsis semichelatus*, *Amaryllis macrophthalma* and *Maera* sp. (female) were collected.

Dredge stations

Samples from 23 dredges forming part of a series taken by the S.S. *Anton Bruun* in August 1964 were donated to the University of Cape Town and are incorporated in the survey.

Station list

Cat. no.	Date	Position	Depth (m)	Substrate	Gear
PED 1-2	18/8/64	24°46'S/35°20'E	132	Rock and shelly sand	Rock dredge
PED 3-7	18/8/64	24°46'S/35°18'E	110	Coarse sand and rock	Rock dredge
PED 8	18/8/64	24°49'S/35°13'E	73	Shelly sand and rock	Rock dredge
PED 9-12	19/8/64	24°46'S/34°50'E	22	Shelly sand and rock	Rock dredge
PED 13-17	19/8/64	24°53'S/34°56'E	55	Fine grey sand and rock	Rock dredge
PED 18-19	19/8/64	25°07'S/34°34'E	112	Dark sandy mud	Agassiz dredge
PED 20-21	22/8/64	25°57'S/33°02'E	42	Shell and rock	Rock dredge
PED 22-23	22/8/64	26°00'S/33°05'E	135	Shell and rock	Rock dredge

These samples contained 27 species of amphipod, apparently separable into two groups according to substrate preferences.

Areas with fine substrates (PED 13-18) revealed 16 species while the coarser bottomed areas revealed 11 species, only five being common to both substrate types.

On shell, sand and rock, the most important species were *Gammaropsis atlantica*, *Maera inaequipes*, *Maera serrata* and *Orthoprotella mayeri*.

In the fine sand and mud areas no one species was recovered in even moderate numbers, indicating a sparse, mixed population of mud-loving burrowing types (such as *Ampelisca*, *Podocerus*, *Metaphoxus* and *Urothoe*). The few caprellids found here would have been living on the occasional rocks present.

SYSTEMATICS

The form of presentation used here follows that of J. L. Barnard and J. C. McCain, in that families, and genera within families, are presented in alphabetical order.

It will be noted that many major taxonomic changes have taken place in the years since K. H. Barnard's (1940) key to South African Amphipoda. The reader is referred to J. L. Barnard (1969*b*, 1970*a*) for diagnosis of gammarid taxa and to J. L. Barnard (1958) for a world species list. Information on the revised taxonomy of Caprellidea may be found in McCain (1970) and McCain & Steinberg (1970), the latter work also including bibliographies and synonymies for all known species.

For the convenience of readers unfamiliar with recent developments, relevant changes at family level since 1940 are listed below:

Old taxa	New taxa
Atylidae	Incorporated into Dexaminidae
Lepechinellidae	
Hyaellidae	Incorporated into Superfamily Talitroidea
Hyalidae	
Talidae	
Photidae	Incorporated into Isaeidae
Metopidae	Incorporated into Stenothoidae
Pontigeneiidae	Incorporated into Eusiridae
Jassidae	Becomes Ischyroceridae
Caprellidae	Split to form
	Phtisicidae
	Caprellidae (revised)
	Aeginellidae
	Caprogammaridae

In the following account, no attempt has been made to provide a full list of references or synonyms, but the reader is referred to works which will provide good descriptions and synonymy lists, and to those which refer specifically to the southern African region.

The holotypes of all new species have been placed in the South African Museum, Cape Town, the S.A.M. Catalogue numbers given are museum numbers, while other codes (MOR, PED, etc) refer to University of Cape Town collections, the number in brackets after the code refers to the number of individuals found.

Suborder GAMMARIDEA

Family **Ampeliscidae**

Ampelisca diadema (Costa, 1853)

Ampelisca assimilis: Sars, 1895: 168, pl. 58.

Ampelisca diadema: K. H. Barnard, 1916: 133.

Records: PED 15J (2).

Diagnosis: Article 3 of pereopod 5 longer than article 4; pereon segments 5-7 with ventral hooks; third pleonal epimeron rounded; pleon segment 4 with a high, evenly-rounded dorsal carina; antenna 1 slightly exceeding peduncle of antenna 2.

Distribution: Cosmopolitan.

Ampelisca fusca Stebbing, 1888

Ampelisca fusca Stebbing, 1888: 1052, pl. 105.

Records: PED 6K (1); PED 23Q (6).

Diagnosis: Article 4 of pereopod 5 twice the length of article 3, produced posteriorly to cover half article 5, produced portion setose, article 5 slightly produced anteriorly; four eyes, with corneal lenses, lower pair directed forward; pleon segment 4 saddle-shaped dorsally; antennae 1 and 2 equal and as long as body.

Distribution: Endemic, Cape Agulhas to Moçambique.

Ampelisca palmata Barnard, 1916

Ampelisca palmata K. H. Barnard, 1916: 136, pl. 28, figs 30-31.

Records: PED 15H (2).

Diagnosis: Article 3 of pereopod 5 longer than article 4, 4 with front apex narrowly produced along half the length of 5; third pleonal epimeron quadrate, scarcely produced; pleon segment 3 with a low subacute dorsal keel; antenna 1 ♀ much longer than peduncle of antenna 2.

Distribution: Southern and west Africa.

Family **Amphilochidae***Gitanopsis mariae* n. sp.

Fig. 4

Diagnosis of male: Head with extremely large probosciform rostrum, lateral cephalic lobe quadrate, eye of moderate size, black. Antenna 1 not setose, as long as head, flagellum seven-articulate, accessory flagellum absent. Antenna 2 slightly longer than 1, flagellum seven-articulate. Mandible with large triturative molar, palp article 1 distally expanded, articles 2 and 3 subequal, article 3 distally curved. Maxilla 1, palp biarticulate. Outer plate of maxilla 2 narrower than inner. Outer lobe of maxilliped slightly excavate, palp four-articulate, articles 1 and 2 subequal and article 2 expanded distally.

Gnathopods 1 and 2 very weak and slender with gnathopod 2 slightly the larger. Coxa 1 rounded and very small, partially concealed by coxa 2. Coxa 3 antero-distally produced, coxa 4 deeply excavate posteriorly.

Pereopods 3-5, article 2 almost as wide as long. Third pleonal epimeron rounded and somewhat produced postero-inferiorly.

Uropods 1-3, outer rami marginally shorter than inner. Telson dorsally excavate, 70% length of peduncle of uropod 3, tapering distally, apically tridentate.

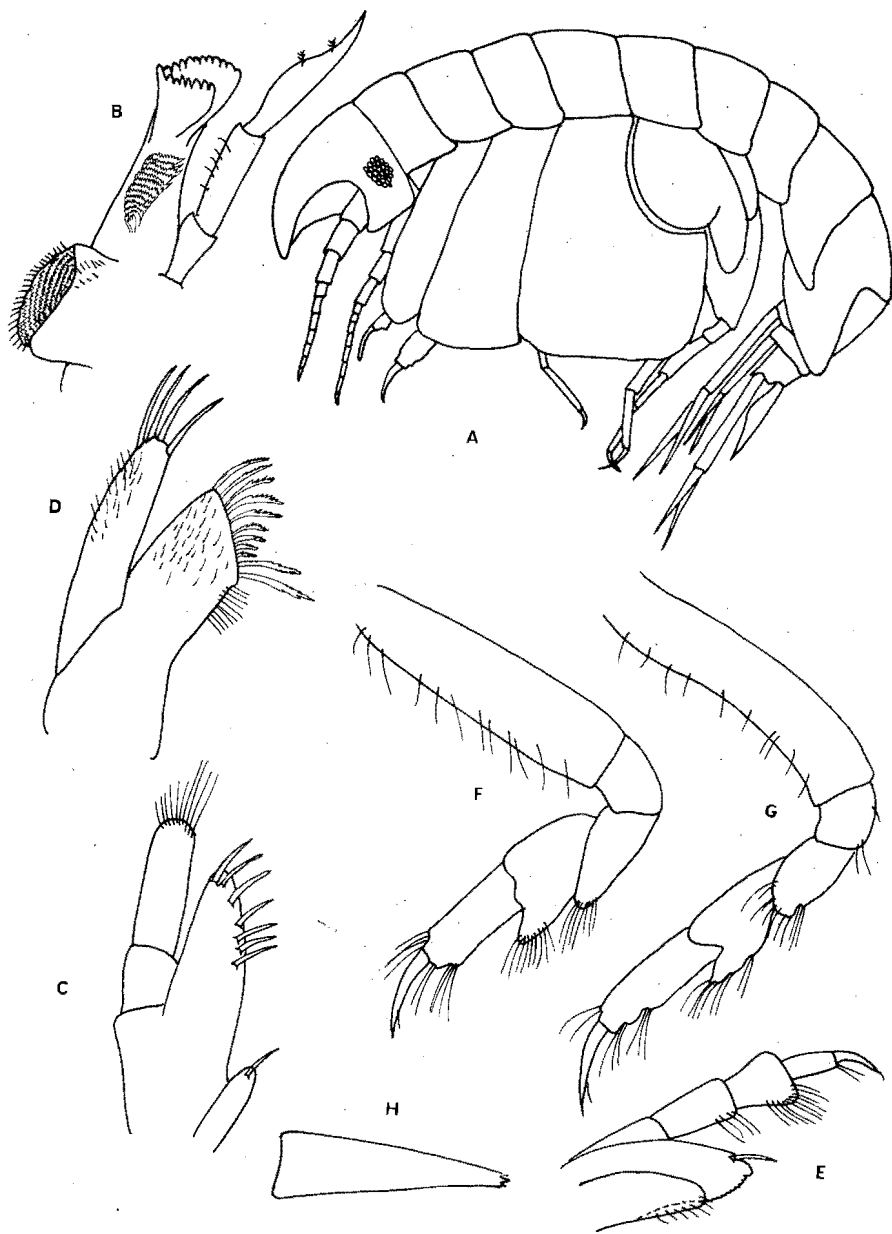


Fig. 4. *Gilanopsis mariae* n. sp., holotype, male, 7 mm.

A. Lateral view. B. Mandible. C. Maxilla 1. D. Maxilla 2. E. Maxilliped. F. Gnathopod 1.
G. Gnathopod 2. H. Telson.

Holotype: Male, 7 mm, unique. S.A.M. A 13066.

Type-locality: Collected at Santa Maria, Inhaca Island, by biologists of the South African Museum, June 1971.

Records: IN 159J.

Remarks: This species is easily recognized by its distinctive rostrum, which is much larger than is usual in this genus, and by the extremely weak gnathopods, which are unlike those of any other representatives of the genus.

Gitanopsis pusilla Barnard, 1916

Gitanopsis pusilla K. H. Barnard, 1916: 144. Stephensen, 1949: 8, fig. 1.

Records: PED 21E (1); IN 158C (1).

Diagnosis: Distinguished from other members of the family by the very short pyriform telson which is less than half the length of the peduncle of uropod 3; body smooth; process of article 5 of gnathopod 1 extending half the length of article 6, palm transverse, convex, defined by two spines.

Distribution: Tristan da Cunha, Kerguelen, South Georgia, Lambert's Bay to Moçambique.

Family **Ampithoidae**

Ampithoe ramondi (Audouin, 1826)

Ampithoe vaillanti: K. H. Barnard, 1916: 253.

Ampithoe ramondi: J. L. Barnard, 1970b: 50, figs 18-19.

Records: IN 159C (8); JAN 12J (1); MOR 74J (1); MOR 212C (2).

Diagnosis: Accessory flagellum absent; gnathopods 1 and 2 with article 2 lobed; palm of gnathopod 2 defined by a conspicuous lobelike tooth, dactyl serrate; outer ramus of uropod 3 terminating in two strongly recurved spines.

Distribution: Cosmopolitan in warm and temperate seas.

Cymadusa filosa Savigny, 1818

New synonymy:

Grubia australis K. H. Barnard, 1916: 258.

Grubia filosa: Shoemaker, 1935: 245, figs 4, 5.

Cymadusa australis: K. H. Barnard, 1940: 480.

Cymadusa filosa: J. L. Barnard, 1955: 29, fig. 15.

Records: MOR 218D (1); IN 160B (3); JAN 12C (2); PEA 24C (3).

Remarks: *C. australis* has previously been separated from *C. filosa* by the lack of plumose setae on antenna 2 and coxae 1-4 in the adult male, and by the lack of

distal lobes on article 2 of gnathopods 1 and 2. Barnard's types of *C. australis*, however, included only one adult male, and subsequent samples (including some from the type locality) identified by Barnard as *C. australis* did have plumose setae. Re-examination of the type specimens has shown that small pellucid lobes on the gnathopods are present, and that the females do not differ in any respect from females of *C. filosa*.

Since no more material corresponding to the male type of *C. australis* has been found, it seems more than likely that the one male type is aberrant, having failed to develop the plumose setae of an adult male. (It is well known that plumose setae develop with maturity and are fully developed only in aged males.)

The largest specimen so far recovered, a male of over 30 mm, showed plumose setae on the telson, fringing the peduncles of the uropods, on the anterior edge of article 2 of the pereopods and the gnathopods, on the peduncle of antenna 2 and on the ventral margin of the head.

Distribution: Circumtropical.

Paragrubia vorax Chevreux, 1901

Fig. 5

Paragrubia vorax: J. L. Barnard, 1965: 541, fig. 35. Ledoyer, 1967: 135, fig. 23.

Records: JAN 12B (3) (the first record of this species from the southern African mainland).

Diagnosis: Gnathopod 1 considerably larger than 2, article 6 broadly expanded in adult males, palm slightly oblique and strongly concave. Young males show a strong palmar spine but this is lost with age. Accessory flagellum present.

Distribution: Tropical Indo-Pacific.

Family **Aoridae**

Aora typica Kröyer, 1845

Aora typica: Ledoyer, 1967: 131, fig. 15.

Records: IN 161 A (1).

Diagnosis: Easily recognized by gnathopod 1 which has a proximal tooth on the anterior margin of article 2 and a long distal projection on article 4.

Distribution: Cosmopolitan.

Lembos podocerooides Walker, 1904

Lembos podocerooides Walker, 1904: 279, pl. 6.

Records: PED 6 Q (2); PEA 2 L (6).

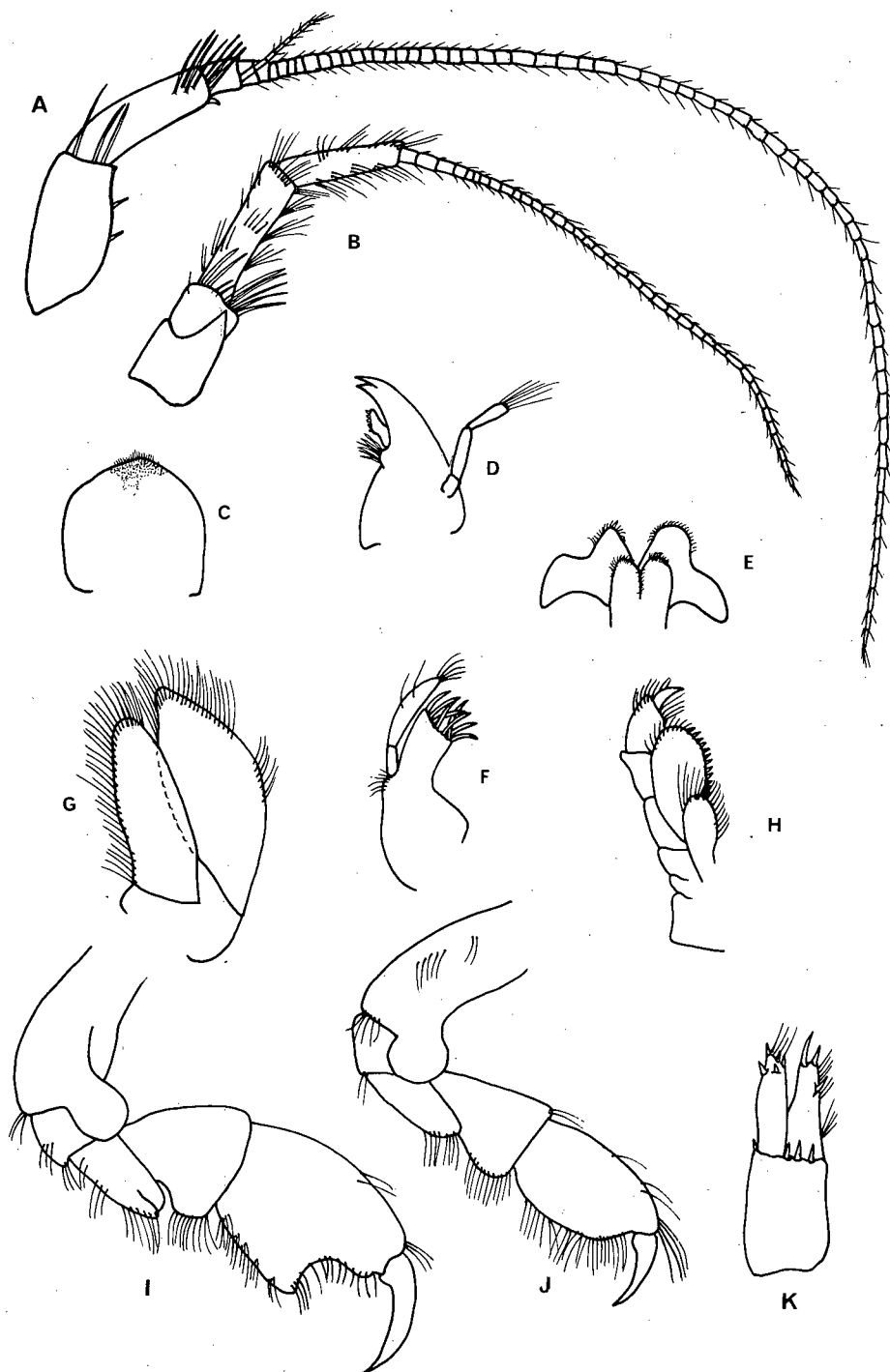


Fig. 5. *Paragrubia vorax* Chevreaux, male, 10 mm.

A. Antenna 1. B. Antenna 2. C. Upper lip. D. Mandible. E. Lower lip. F. Maxilla 1. G. Maxilla 2. H. Maxilliped. I. Gnathopod 1. J. Gnathopod 2. K. Uropod 3.

Diagnosis: Gnathopod 2 of male with the base of the hand produced backwards in a long pointed spur and the palm with a small semicircular sinus near the finger hinge; the posterior and lower margins of the third pleonal epimeron are convex and the postero-inferior corner is slightly produced with a diagonal ridge running across the epimeron to it.

Distribution: Indian Ocean, Red Sea.

Lembos teleporus Barnard, 1955

Lembos teleporus K. H. Barnard, 1955: 94, fig. 47. Ledoyer, 1967: 135, figs 16-17.

Records: IN 160 C (2); MOR 77 W (7); MOR 102 P (2); MOR 147 J (1); MOR 212 H (21).

Diagnosis: Pereon segment 3 with a strong ventral spine in adult males; article 6 of gnathopod 1 male three times the length of article 5, widening distally, palm with a blunt tooth near finger hinge, palmar angle quadrate, palm and dactyl crenulate.

Distribution: Malagasy, Moçambique, South West Africa.

JANICE, n. gen.

Generic diagnosis (male): Article 3 of antenna 1 shorter than article 1, accessory flagellum absent; gnathopod 1 subchelate, articles 4-6 lacking teeth, article 6 slightly shorter than, and of subequal width to, article 5; gnathopod 2 heavily setose, article 4 projecting to protect article 5 posteriorly, article 5 wider than 6 but subequal in length; uropod 3 uniramous, ramus equal to peduncle.

Remarks: The lack of teeth on gnathopod 1 and the complete lack of accessory flagellum are alone sufficient to demand the erection of a new genus. In addition, the structure of gnathopod 2 is unique among Aoridae.

Type-species: *Janice spinidactyla* n. sp.

Janice spinidactyla n. sp.

Fig. 6

Diagnosis of male: Head as long as two pereon segments; eyes small, round, dark. Antenna 1 extending to end of pereon segment 5, ratio of peduncular articles 2 : 3 : 1, flagellum subequal to peduncle and composed of 18 articles, accessory flagellum absent. (Antenna 2 missing.) Mandible with large triturative molar and three-articulate palp, lacinia mobilis 2-toothed with seven spines proximally.

Gnathopod 1 larger than 2, subchelate, articles 4-6 lacking teeth, setose posteriorly, article 6 as wide as, but slightly shorter than, article 5, palm transverse, convex, defined by two large spines and with a few small spines along its edge, dactylus slightly longer than palm and cut into four teeth.

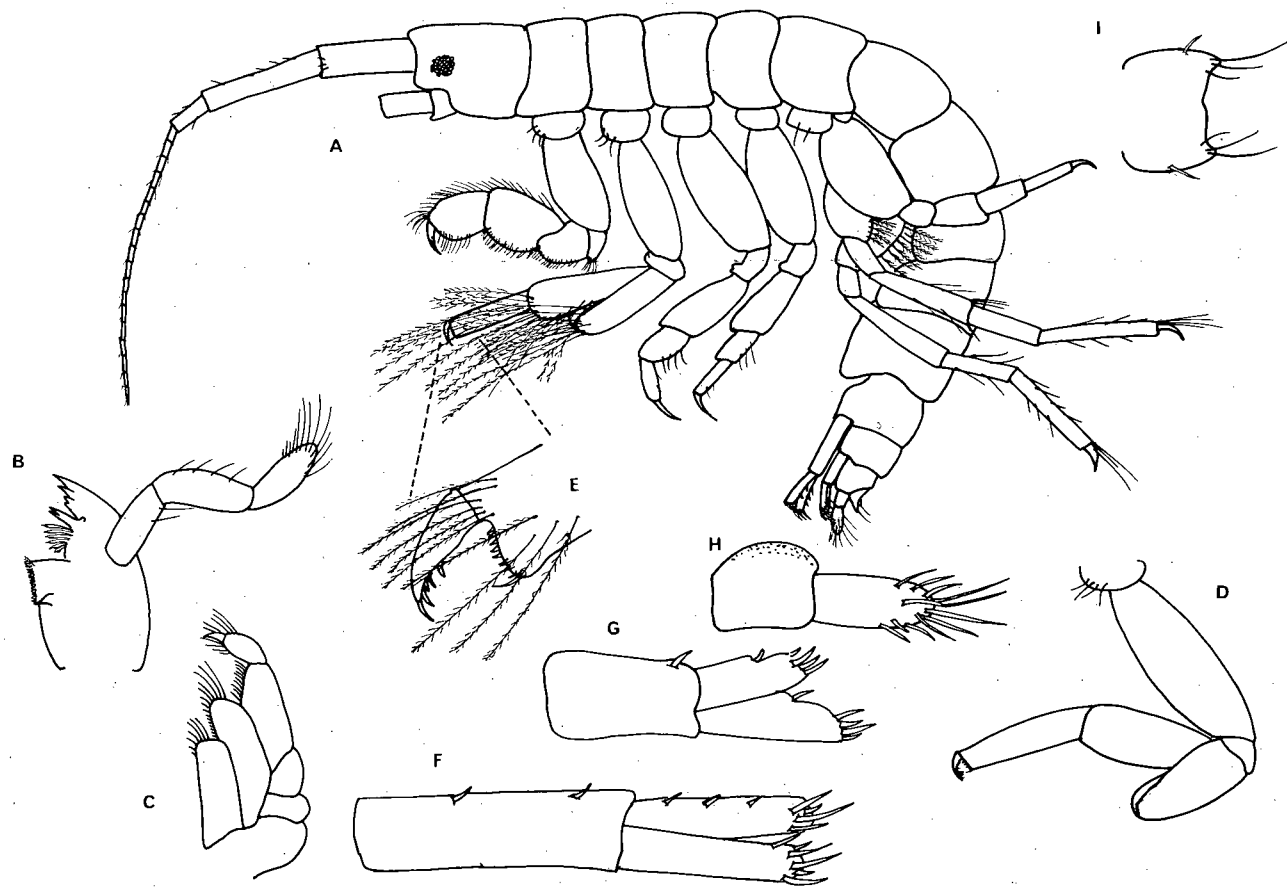


Fig. 6. *Janice spindiactyla* n. gen., n. sp., holotype, male 6 mm.

A. Lateral view. B. Mandible. C. Maxilliped. D. Gnathopod 2 without its setae. E. Tip of article 6 and article 7 of gnathopod 2. F. Uropod 1. G. Uropod 2. H. Uropod 3. I. Telson.

Article 4 of gnathopod 2 with a spoon-shaped projection extending nearly half the length of article 5, with long, plumose setae along its margins; article 5 as long as, and wider than, article 6 and extremely setose posteriorly, article 6 narrow, palm transverse; four large and many small spines along its length; dactylus matching palm with ten spines which become longer distally.

Pereiopods 1 and 2 glandular; pereiopods 3-5 with article 2 slightly expanded, that of pereiopod 5 extremely setose posteriorly.

Uropod 1 projecting to the end of uropod 3, rami subequal and $\frac{3}{4}$ length of peduncle, each bearing three spines dorsally and five or six terminally. Uropod 2 half the length of 1, rami subequal and slightly shorter than peduncle, each with one dorsal and five terminal spines. Uropod 3 half the length of 2, uniramous, ramus slightly longer than peduncle, cylindrical, terminating in about 12 long spines.

Telson not extending to end of peduncle of uropod 3, emarginate, fleshy, two lateral and three terminal setae on each side.

Holotype: Male, 6 mm. S.A.M. A 13067.

Type-locality: Found amongst *Acrostichum*, Morrumbene estuary above Tinga-Tinga, 12 July 1968. Salinity at capture site 10‰.

Records: MOR 253L.

Paratype: One male, MOR 253L.

Family **Colomastigidae**

Colomastix pusilla Grube, 1864

Colomastix pusilla: H. K. Barnard, 1925: 346. J. L. Barnard, 1955: 39-42, fig. 20.

Records: MOR 283 L (1).

Diagnosis: Distinguished from other members of the family by the smoothly rounded telson; uropod 3 rami equal; eyes in live specimen with red lenses outlined in white; flagellum of antenna 1 two-articulate.

Remarks: Probably considerably more common than the literature suggests since, with its small size and slender body, it is likely to pass through the sorting screens used by many workers.

Distribution: Cosmopolitan in tropical and temperate seas.

Family **Corophiidae**

Cerapus tubularis Say, 1818

Cerapus abditus: Stebbing, 1910b: 616, pl. 55A.

Cerapus tubularis: J. L. Barnard, 1962: 61, figs 27-28. Ledoyer, 1967: 137, fig. 27.

Records: MOR 108 F (1); PED 7 Q (2); PED 11 X (4); PED 12 W (4).

Diagnosis: Rostrum prominent; article 3 of antenna 1 as long as article 1, article 1 with a sharp ventral projection; gnathopod 2 male extremely powerful, article 5 with a large postero-distal triangular process and a smaller process near the articulation with article 6; uropod 2 uniramous.

Remarks: *C. abditus* has been found to be the adult of *C. tubularis*, the main source of misidentification having been Stebbing (1906) who restricted *C. tubularis* to forms with only three flagellar articles on antenna 1, whereas the number is, in fact, variable between two and five. Possibly development in colder regions is retarded, making the terminal 'abditus' type rarer.

Distribution: Cosmopolitan in warm and temperate seas.

Corophium triaenonyx Stebbing, 1904

Corophium triaenonyx Stebbing, 1904: 25, pl. 6A. K. H. Barnard, 1940, 482.

Records: MOR 238 K (1); MOR 240 G (1); MOR 243 X (1); MOR 253 D (1); IN 158 A (2).

Diagnosis: Antenna 2 male with article 4 distally produced into a large curved tooth, a smaller tooth on its inner side; article 7 of gnathopod 2 markedly tri-dentate, the third and largest tooth forming the unguis, pleon segments 4-6 distinct.

Distribution: Tropical Atlantic, Indian Ocean, Mediterranean, Chilka Lake.

Erichthonius brasiliensis (Dana, 1853)

Erichthonius brasiliensis: Stebbing, 1910a: 463. J. L. Barnard, 1955: 37. Ledoyer, 1967: 137, fig. 30.

Records: MOR 218 E (1); JAN 12 H (8); PED 10 T (1); PED 15 M (1); amongst *Cymodocea* at Inhaca (Macnae & Kalk, 1958).

Diagnosis: Head not rostrate; gnathopod 2 male very powerful, article 5 postero-distally with a large bidentate process, dactyl very strong, falciform; uropods 1 and 2 sublamellar, minutely pectinate, uropod 3 uniramous, ramus half the length of peduncle and bidentate at tip.

Distribution: Cosmopolitan in tropical and temperate seas.

Grandidierella bonnieri Stebbing, 1908

Grandidierella bonnieri: Ledoyer, 1967: 137, fig. 28a.

Records: MOR 30 T (3); MOR 30 U (3); MOR 41 N (1); MOR 52 N (2); MOR 74 H (7); MOR 77 Z (3); MOR 102 N (1); MOR 240 F (7); MOR 243 Y (1); POE 1 A (1); POE 3 D (common); POE 6 A (common); POE 10 F (1); POE 12 G (5).

Diagnosis: Pereon segment 1 in male with a strong medio-ventral spiniform

process; gnathopod 1 male with article 5 not narrowing distally, a strong spinose projection on inner apical corner, a smaller one on the distal margin, and a spine on the lower margin.

Distribution: Atlantic and Indian Oceans, Caribbean.

Siphonocetes orientalis Walker, 1904

Siphonocetes orientalis Walker, 1904: 294, pl. 7, fig. 49. K. H. Barnard, 1916: 270.

Records: MOR 124 F (2).

Diagnosis: Eyes poorly developed; flagellum of antenna 2 of one long and two short densely setose articles with characteristic marginal and apical unguiform spines; flagellum of antenna 1 subequal to peduncle and consisting of 10-14 articles; rostrum acute and deflexed.

Distribution: Tropical Indo-Pacific.

Family **Dexaminidae**

Polycheria atolli Walker, 1905

Polycheria antarctica: K. H. Barnard, 1916: 211.

Polycheria atolli: Ledoyer, 1967: 131, fig. 13a.

Records: PED 10 P (4); PED 15 Q (1).

Diagnosis: Urosome segments with dorsal carinae, segments 2 and 3 fused; pereopods chelate; uropods 1 and 3 subequal, 2 much shorter with outer ramus half the inner; telson cleft to base.

Distribution: Antarctic and southern Oceans, tropical Indian Ocean.

Family **Eusiridae**

Eusiroides monoculoides (Haswell, 1880)

Eusiroides monoculoides: K. H. Barnard, 1916: 174. J. L. Barnard, 1964: 221, fig. 1.

Records: PED 15 K (1).

Diagnosis: Gnathopods subchelate, article 5 lobate, shorter than 6; third pleonal epimeron posteriorly convex with 10-12 upturned teeth; telson cleft half its length, apices bidentate.

Distribution: Circumtropical.

Family **Gammaridae**

Elasmopus affinis Della Valle, 1893

Elasmopus affinis: Sars, 1895: 521, pl. 183.

Records: JAN 12 K (1); JAN 12 M (105); IN 159 G (f.c.); PED 10 R (4); PED 15 N (2).

Diagnosis: Pereiopods robust, article 2 of pereiopod 5 two-thirds as wide as long; outer ramus of uropod 3 larger than inner, two fascicles of spines on outer edge, tips of both rami obliquely truncate and densely spinose; telson narrowly cleft, tip of each lobe obliquely truncate with three or four apical spines. Gnathopod 2 ♂ with 3-spined tubercle at base of dactylus.

Distribution: Mediterranean, Atlantic, southern Indian Ocean.

Elasmopus japonicus Stephensen, 1932

Elasmopus spinimanus (non Walker, 1905): K. H. Barnard, 1925: 358.

Elasmopus japonicus: Sivaprakisam, 1968: 278, figs 3-5.

Records: JAN 12 A (98); PEA 24 E (8).

Diagnosis: Article 6 of gnathopod 2 large, a rounded process at the base of the dactylus bears eight strong spines on its margin and three more at its base, finger less than half the length of article 6.

Remarks: The specimens identified by K. H. Barnard (1916) have a dorsal keel on pleon segment 4 which excludes them from *E. spinimanus*. They agree closely with Stephensen's figures of *E. japonicus*.

Distribution: Indo-Pacific, extending to South West Africa.

Maera hamigera (Haswell, 1880)

Maera hamigera: K. H. Barnard, 1916: 196, pl. 27, figs 11-12. J. L. Barnard, 1965: 507, fig. 16.

Records: IN 158 B (4); IN 159 A (8); IN 160 E (1).

Diagnosis: Body not dorsally dentate, posterior edge of third pleonal epimeron serrate; uropod 3 extending much beyond 1 and 2, rami equal; right gnathopod 2 male larger than the left, palm defined by a strong tooth followed by a marked concavity and a number of further teeth (six in these specimens but variable).

Distribution: Indo-Pacific.

Maera inaequipēs (Costa, 1851)

Maera inaequipēs: K. H. Barnard, 1916: 193. J. L. Barnard, 1959: 25, pl. 5.

Records: JAN 12 D (1); IN 160 A (1); PED 23 S (1).

Diagnosis: Gnathopod 2 with a sinus in centre of transverse palm, the stout dactylus having a rounded tooth which fits the depression; article 2 of pereiopod 5 with six or seven serrations; uropod 3, rami unequal, truncated; telson cleft to base, each lobe bidentate, with four or five terminal spines.

Distribution: Cosmopolitan in tropical and temperate seas.

Maera serrata Schellenberg, 1938

Maera inaequipes serrata: Ledoyer, 1967: 127, fig. 9.

Maera serrata: J. L. Barnard, 1970b: 155, figs 96-97.

Records: PED 6 S (1); PED 10 N (19).

Diagnosis: Differs from *M. inaequipes* only by the serrated posterior border of the third pleonal epimeron; the number of serrations is variable, the present specimens having from three to seven teeth.

Distribution: Indo-Pacific (this is the first record from the southern African mainland).

Mallacoota subcarinata (Haswell, 1880)

Elasmopus subcarinatus: Stebbing, 1910: 458.

Maera subcarinata: K. H. Barnard, 1940: 460, fig. 26.

Records: PED 21 D (1).

Diagnosis: Pleon segment 3 bicarinate, the two teeth apically inclined towards one another; gnathopod 2 palm spinose with a central cavity containing a strong tooth; telson with widely divergent lobes, their tips bidentate.

Distribution: Indian Ocean, Pacific, Mediterranean.

Melita appendiculata (Say, 1818)

Melita fresneli: Stebbing, 1910b: 596. K. H. Barnard, 1916: 189, pl. 28, fig. 32.

Melita appendiculata: J. L. Barnard, 1970b: 161, figs 103, 104.

Records: MOR 45 E (2); MOR 45 G (2); MOR 77 V (5); MOR 124 D (1); PED 15 F (6); PED 18 U (1); IN 159 D (4).

Diagnosis: Pleonal tooth formula 7 : 7 : 7 : 5 : 2; pleonal epimeron 3 produced into a long tooth; gnathopod 2 male unequal, either the larger, article 6 with a characteristic spoon-shaped palm, three teeth near finger hinge, dactyl powerful, hind margin of article 6 longer than front margin; article 2 of pereopods 4 and 5 narrowing distally, not produced postero-inferiorly.

Distribution: Cosmopolitan.

Melita zeylanica Stebbing, 1904

Melita inaequistylis: (part) K. H. Barnard, 1916: 191.

Melita zeylanica: Sivaprakasam, 1966: 112, fig. 12a-j.

Records: MOR 95 D (3); MOR 253 C (F.C.); POE 10 G (3); POE 12 F (F.C.).

Diagnosis: Pleon without dorsal teeth, segment 2 with two or three submedian fascicles of spines on each side; gnathopod 1 with short palm distally produced into a setose lobe into which the dactylus fits.

Remarks: K. H. Barnard (1916) doubtfully synonymized Walker's (1904) *M. tenuicornis* but this has not been accepted since Walker's specimens had pleonal teeth while Barnard's did not.

Distribution: A brackwater species found in India, Ceylon and southern Africa.

Family **Haustoriidae**

Urothoe elegans Bate, 1857

Urothoe elegans: Ledoy r, 1968: 23, pl. 5.

Records: PED 18 X (1).

Diagnosis: Distinguished from other southern African species by articles 4 and 5 of pereopod 3, which are longer than broad; dactyl of pereopod 3 minutely denticulate.

Distribution: Atlantic and Indian Oceans.

Family **Isaeidae**

Cheiriphotis megacheles (Giles, 1885)

Cheiriphotis durbanensis K. H. Barnard, 1916: 247.

Cheiriphotis megacheles: J. L. Barnard, 1962: 17, fig. 4.

Records: MOR 37 W (4); MOR 41 M (2); MOR 45 F (4); MOR 77 X (4); MOR 77 Y (7); MOR 238 E (C.); JAN 12 N (29).

Diagnosis: A polymorphic species, young specimens having a moderately well-developed inner ramus to uropod 3 which disappears in fully developed adults; gnathopod 2 male changes from an oblique palmed form bearing three large teeth to a transverse one bearing four or five small irregular teeth; article 3 of antenna 1 shorter than 1 or 2, accessory flagellum tri-articulate.

Distribution: Indo-Pacific.

Chevalia avicul e Walker, 1904

Chevalia avicul e: K. H. Barnard, 1916: 252. J. L. Barnard, 1970b: 166, fig. 107.

Records: PEA 4 L (5).

Diagnosis: Accessory flagellum of antenna 1 uniarticulate; gnathopod 2 stout, article 6 subquadrate, palm transverse, convex, defined by a strong tooth; pereopods 3 and 5, dactyl bifurcate; urosome segments 1 and 2 coalesced; uropod 3 obliquely truncate and setose, inner ramus longer than outer.

Distribution: Indo-Pacific, west coast of South Africa.

Gammaropsis afra (Stebbing, 1888)

Eurystheus afer: K. H. Barnard, 1916: 249, pl. 28, fig. 11.

Gammaropsis afra: J. L. Barnard, 1970b: 170, fig. 108.

Records: IN 159 H (2).

Diagnosis: Eyes not lageniform; gnathopod 2 palm of two irregular humps, finely crenulate; otherwise resembling *G. atlantica*, of which it may eventually prove to be a variety.

Distribution: Indo-Pacific and eastern Atlantic Oceans.

Gammaropsis atlantica (Stebbing, 1888)

Eurystheus atlanticus: Stebbing, 1908: 86.

Gammaropsis atlantica: J. L. Barnard, 1970b: 174, figs 111-113.

Records: PED 2 M (1); PED 6 J (13); PED 8 Q (present); PED 10 S (15); PED 15 E (present).

Diagnosis: Cephalic lobes moderately projecting, eyes lageniform; accessory flagellum thin, six-articulate in adults; gnathopod 2 article 6 $1\frac{1}{2}$ times as long as broad, palm oblique with a large cavity near the defining angle and a bulge near the hinge.

Remarks: A highly variable species, especially as regards the eyes, which range from lageniform (in South African specimens) to oval. J. L. Barnard (1970b) discusses two phenotypes found in Hawaii and suggests that *G. atlantica* and *G. afra* (Stebbing) may form a single species complex.

Distribution: Eastern Atlantic and Indo-Pacific.

Gammaropsis inhaca n. sp.

Fig. 7

Diagnosis of male: Head equal to two pereon segments, ocular lobes extending half the length of article 1 of antenna 1; eyes oblique, oval, black.

Articles 1 and 3 of antenna 1 equal, shorter than article 2, flagellum fourteen-articulate and 70% the length of peduncle; antenna 2 slightly longer than antenna 1, article 2 produced distally, article 3 curved, flagellum thirteen-articulate.

Mandibular molar large, palp triarticulate, articles 2 and 3 equal, longer than article 1.

Coxa 1 acutely produced forwards to base of antenna 2, distal portion flared outwards; coxae 2-7 small, scarcely touching. Gnathopod 1, article 2 constricted near its origin, article 6 slightly larger than 5, setose on medial surface, palm oblique, a marked concavity near the hinge followed by a large

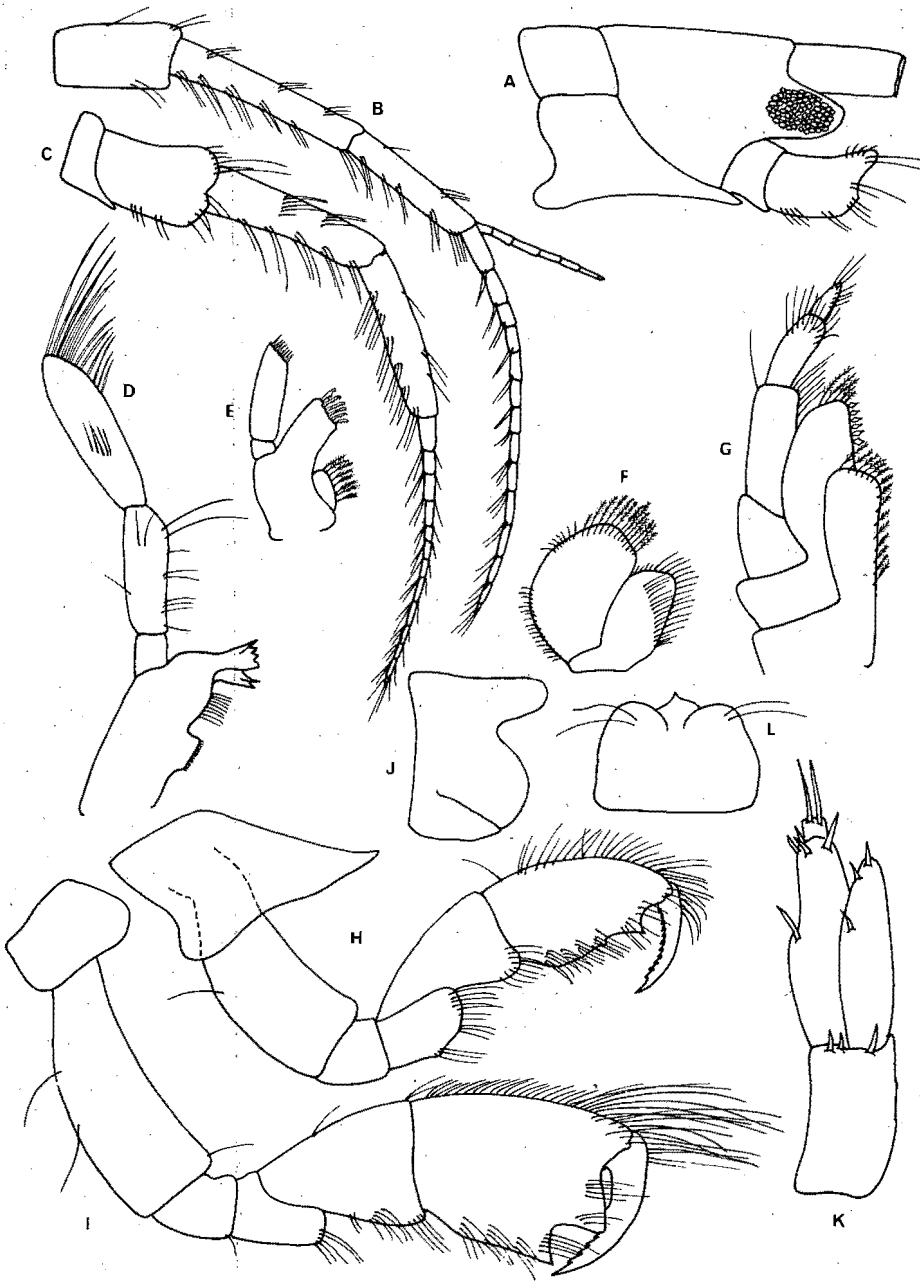


Fig. 7. *Gammaropsis inhaca* n. sp., holotype, male 7 mm.

A. Head. B. Antenna 1. C. Antenna 2. D. Mandible. E. Maxilla 1. F. Maxilla 2. G. Maxilliped.
H. Gnathopod 1. I. Gnathopod 2. J. Pleonal epimeron 3. K. Uropod 3. L. Telson.

tooth; remainder of palm concave, a small tooth at defining angle; dactyl cut into ten teeth, closing onto inner surface of article 6. Gnathopod 2 slightly larger than 1, inner surface of article 6 extremely setose, palm similar to that of gnathopod 1 but more exaggerated, dactyl with four teeth, closing onto inner surface of article 6.

Pereiopods 1 and 2 glandular; article 2 of pereiopods 3-5 not expanded.

Peduncle of uropod 1 with a large distal spine. Uropod 2 not extending beyond uropod 1, peduncle lacking spine. Rami of uropod 3 slightly longer than peduncle, outer ramus slightly exceeding inner, and having a small second article.

Telson quadrate, two subterminal setae on lateral lobes.

Posterior edge of third pleonal epimeron concave proximally, convex distally, postero-inferior corner faintly notched, a diagonal ridge running to the notch.

Colour (as preserved): White, a black area distally on article 2 of gnathopod 1 and of pereiopods 4 and 5.

Holotype: Male, 7 mm, unique. S.A.M. A 13068.

Type-locality: Recovered on intertidal mudflats off the west coast of Inhaca Island by biologists of the South African Museum, June 1971.

Records: IN 160 D.

Remarks: This species is easily distinguished from most others by the large teeth on the palms of gnathopod 1 and 2. Species with similar gnathopods are *G. setiferous*, which has a uniarticulate outer ramus to uropod 3, and *G. kergueleni*, which is probably the closest relative, but which differs in the structure of coxa 1 and by the lack of teeth on the dactyl of gnathopod 2.

Gammaropsis semichelatus (Barnard, 1957)

Eurystheus semichelatus K. H. Barnard, 1957: 8, Fig. 5.

Records: JAN 12 E (7); JAN 14 A (6); PEA 24 D (1).

Diagnosis: Article 2 of gnathopod 2 distally lobed, article 3 strongly lobed, article 6 elongate oblong, distally projecting forwards to form a chela with the short stout dactyl; third pleonal epimeron postero-inferiorly quadrate, minutely notched and with an oblique ridge running diagonally to the notch.

Distribution: Endemic to Natal and Moçambique.

Photis kapapa Barnard, 1970

Fig. 8

Photis kapapa J. L. Barnard, 1970b: 192, figs 124, 125.

Records: MOR 244 A (15); PED 15 P (8).

Diagnosis: Article 2 of gnathopod 2 male distally produced into a large sacklike

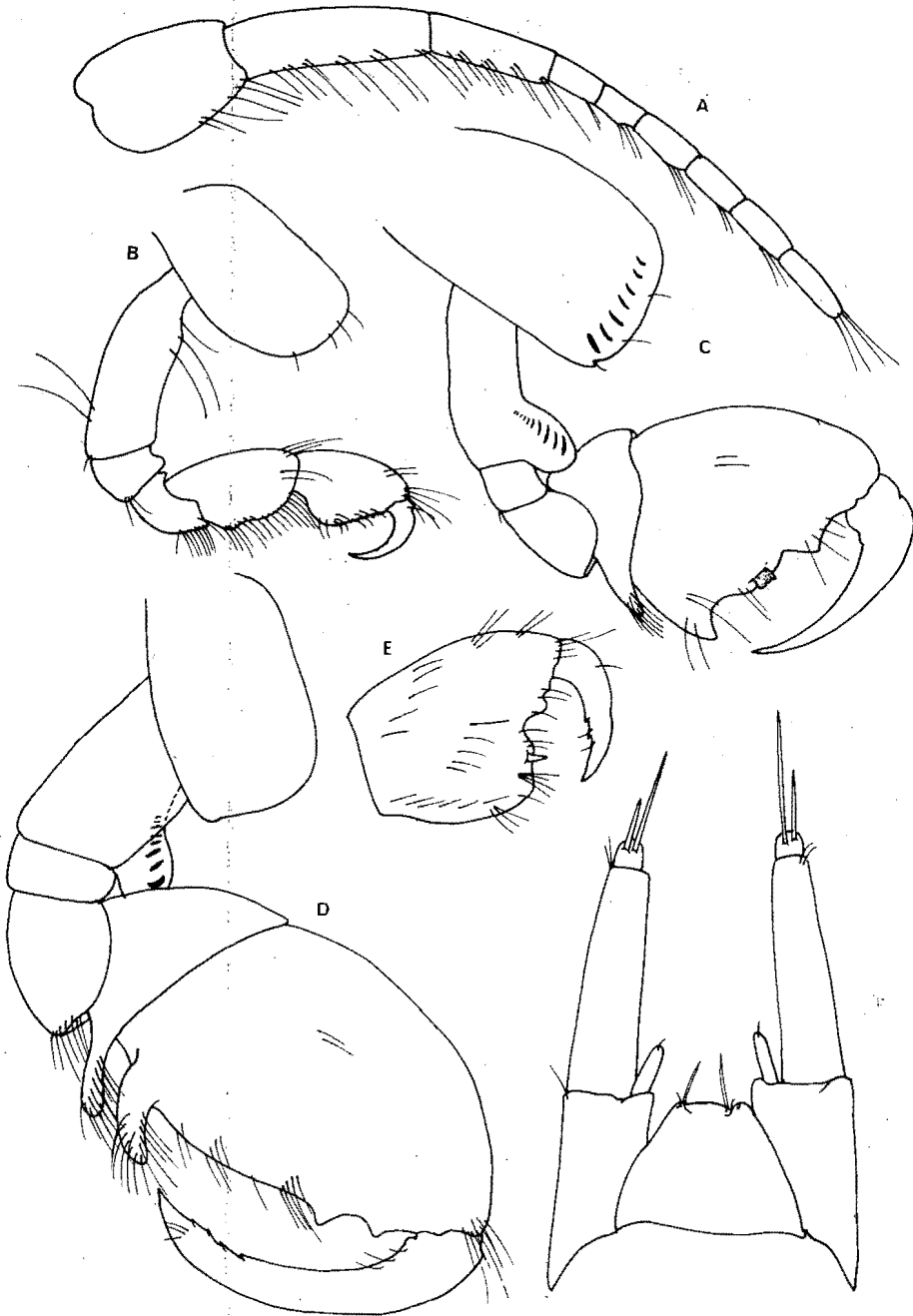


Fig. 8. *Photis kapapa* Barnard

Male, 3 mm: A. Antenna 1. B. Gnathopod 1. C. Gnathopod 2. F. Uropod 3 and telson. Male, 5 mm: D. Gnathopod 2 (inner aspect). Female, 4 mm: E. Gnathopod 2.

lobe bearing stridulation ridges, article 5 cupshaped, with a tumid posterior lobe, article 6 variable, palm slightly to extremely oblique, defined by a large blunt tooth in young male which becomes an elongate curved process in terminal form, bisinuate between defining tooth and finger hinge. Coxae 2 to 4 and sometimes 1 bearing stridulation ridges.

Distribution: Hawaii, Moçambique. This is the first record of the species outside Hawaiian waters.

Remarks: Some of the males in the present collection are considerably larger (5 mm as compared with 2,5 mm) and have more highly developed gnathopods than those figured by Barnard (1970). In its terminal form (Fig. 8d) the palm of gnathopod 2 male is very oblique and the defining tooth has become enlarged into a curved lobe arising from the inner margin of the palm and curving distally and outwards. Small males however show gnathopods (Fig. 8c) very like those figured by Barnard and I have no hesitation in equating the present material with that from Hawaii, the only consistent differences being the length of the spines of uropod 3 and the number of segments of the flagellum of antenna 1 (6 as against 5 in Hawaiian specimens).

Family **Leucothoidae**

Leucothoe spinicarpa (Abildgaard, 1789)

Leucothoe spinicarpa: K. H. Barnard, 1916: 148. Sivaprakasam, 1967: 384, fig. 1.

Records: JAN 14 B (2); 'Portuguese East Africa' (K. H. Barnard 1955).

Diagnosis: Article 6 of gnathopod 1 finely crenulate and spinose, article 7 about half the length of 6; gnathopod 2, process of article 5 densely setose, article 6 massive, palm convex, minutely serrulate throughout; pleon segment 3 postero-inferiorly quadrate.

Remarks: A rather variable species. J. L. Barnard (1962) points out that in immature specimens article 3 of antenna 1 is longer in relation to articles 1 and 2 than in adults. In the past, this relationship has been used as an important taxonomic characteristic and the observation of differential growth may necessitate a taxonomic revision of the genus.

Distribution: Cosmopolitan.

Family **Lysianassidae**

Amaryllis macrophthalma Haswell, 1880

Amaryllis macrophthalma: K. H. Barnard, 1916: 114.

Records: PED 23 R (1); JAN 12 F (6); JAN 12 R (1); PEA 24 A (1).

Diagnosis: Eyes vertically elongate, subcrescentic; pleon segment 3 postero-inferiorly squarely upturned with a little pocket above the point; uropod 2 rami

subequal, the inner markedly constricted a third before the tip; telson extending beyond the peduncle of uropod 3, more than 50% cleft, apices not divergent.

Distribution: Indo-Pacific, extending around the South African coast to South West Africa.

Aristias symbiotica Barnard, 1916

Aristias symbiotica K. H. Barnard, 1916: 122.

Records: PED 6 N (1).

Diagnosis: Eyes fairly large, oval to circular; third pleonal epimeron postero-inferiorly quadrate, hind margin finely serrulate; telson as broad as long, two-thirds cleft, each apex with a stout spine set in a notch; hind margins of article 2 of pereiopods 3 and 4 with three to four serrations, pereiopod 5 with six serrations; uropods with short spines at tips of their peduncles, rami minutely spinulose; uropod 3 rami lanceolate, inner longer than article 1 of outer.

Remarks: All the species of this genus lead a semi-parasitic existence in the branchial cavities of ascidians or sponges.

Distribution: Endemic, South West Africa to Moçambique.

Lysianassa cinghalensis (Stebbing, 1897)

Lysianassa cinghalensis: Ledoyer, 1968: 19, fig. 1.

Records: JAN 12 G (2); IN 159 E (2).

Diagnosis: Eyes large, dark, reniform; article 1 of antenna 1 twice as long and $1\frac{1}{2}$ times as wide as articles 2 plus 3, accessory flagellum tri-articulate; gnathopod 1 simple; coxa 1 with a small setiferous notch on the lower margin; gnathopod 2 very long, article 2 as long as 4 to 6 combined; uropod 2 inner ramus moderately constricted; uropod 3 peduncle slightly keeled; telson entire and oval.

Distribution: Tropical Indian Ocean. This is the first record of this species from the southern African mainland.

Microlysias indica Barnard, 1937

Fig. 9

Microlysias indica K. H. Barnard, 1937: 144.

Records: MOR 102 M (1); MOR 122 T (2); MOR 138 G (1).

Diagnosis: Antenna 2 male half as long as body; article 4 very tumid; gnathopod 1 subchelate, article 6 longer than 5, 1.5 times as long as broad; gnathopod 2, article 5 widening distally, article 2 of pereiopods 3-5 feebly serrate.

Remarks: Barnard's original specimens were described as having an indistinct fourth article to the maxillipedal palp but the present specimens have a distinct, though small, fourth article.

Distribution: South Arabian coast, southern Africa.

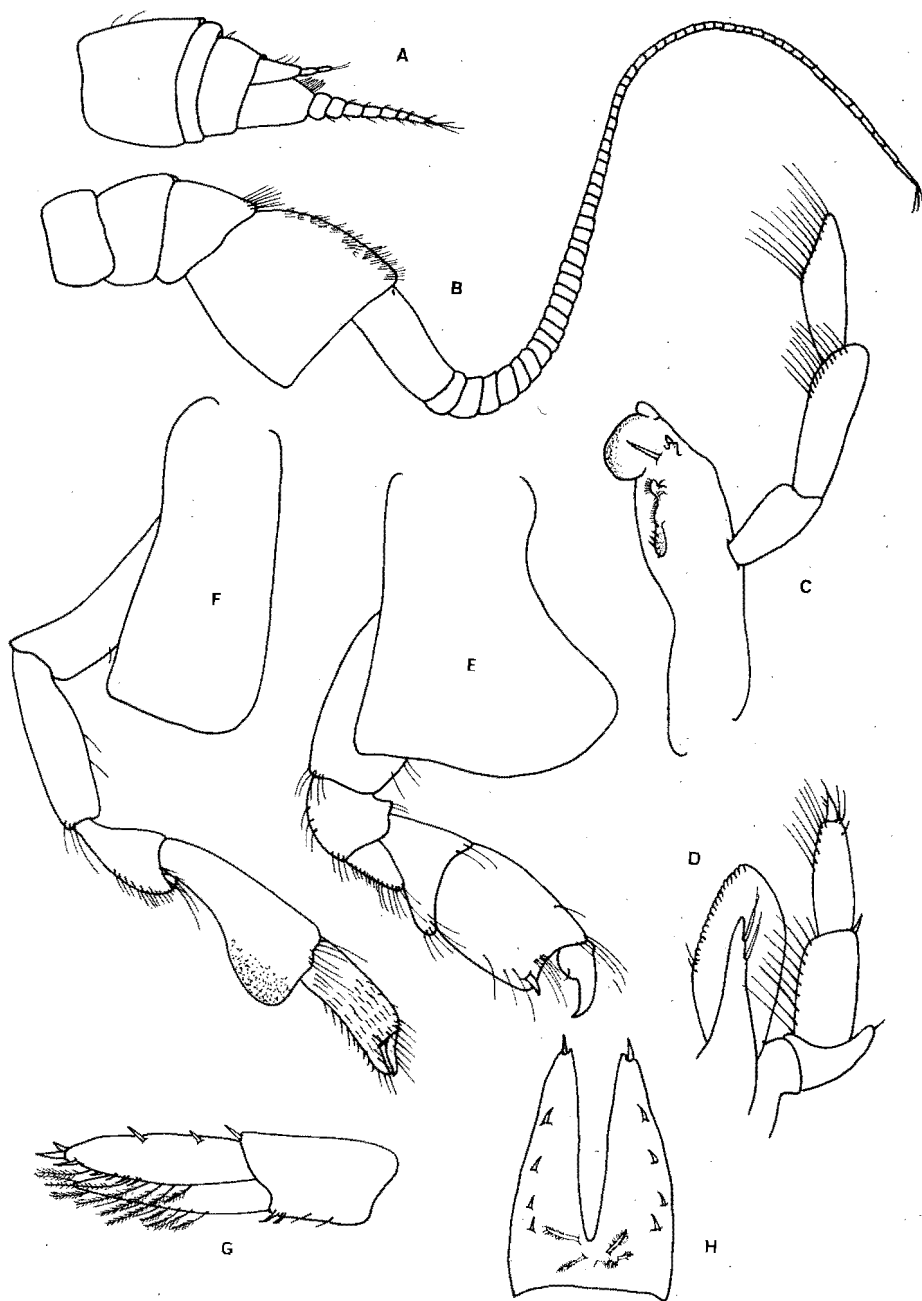


Fig. 9. *Microlystias indica* Barnard, male, 6 mm.

A. Antenna 1. B. Antenna 2. C. Mandible. D. Maxilliped. E. Gnathopod 1. F. Gnathopod 2.
G. Uropod 3. H. Telson.

Trischizostoma circulare Barnard, 1961

Trischizostoma circulare J. L. Barnard, 1961: 51, fig. 20.

Records: 25°36'S/35°21'E, 730 m.

Diagnosis: Article 6 of gnathopod 1 nearly circular, dactyl smooth; rostrum elongate; telson entire; article 6 of gnathopod 2 asymmetrical, distal end produced.

Distribution: The above record is the only one to date.

Trischizostoma sp.

Records: PED 23 T (1 juvenile).

Remarks: The characteristic powerful gnathopods of this individual identify it as a member of the genus *Trischizostoma*. The gnathopods were not, however, sufficiently developed to allow a specific identification. (*T. remipes* Stebbing, 1908 and *T. circulare* are the only species previously recorded from the east coast of Africa.)

Family **Oedicerotidae***Periculodes longimanus* (Bate & Westwood, 1868)

Periculodes longimanus: Chevreux & Fage, 1925: 162, figs 163, 164. Ledoyer, 1967: 127, fig. 7.

Records: PED 18 W (1).

Diagnosis: Rostral projection short, lateral corners rounded, eyes broadest dorsally, with about twelve lenses; gnathopods 1 and 2, process of article 5 to tip of article 6, article 6 three times as long as broad; rami of uropod 3 very narrow, unarmed; telson evenly rounded, twice as long as broad.

Distribution: Mediterranean, Atlantic, Indian Ocean.

Synchelidium haplocheles (Grube, 1864)

Synchelidium haplocheles: Sars, 1895: 318, pl. 112, fig. 1.

Records: MOR 212 K (1).

Diagnosis: Rostrum short, evenly curved; eyes large, round, bright red; process of article 5 of gnathopod 1 produced well beyond hind margin of article 6; article 6 medially widened, palm longer than hind margin and having six large, blunt denticles; gnathopod 2 slender, chela one-fifth the length of article 6.

Distribution: North Atlantic, Mediterranean, Ceylon, southern Africa.

Family **Phoxocephalidae***Metaphoxus* sp.

Fig. 10

Diagnosis: Rostrum longer than peduncle of antenna 1, evenly tapering, tip rounded. Eyes consisting of about 12 ocelli. Antenna 1 as long as head, flagellum ten-articulate, accessory flagellum eight-articulate. Antenna 2 equal to antenna 1.

Mandibular molar reduced to nine spines; mandibular palp with article 3 distally expanded. Maxilla 1 palp uniarticulate, inner lobe bearing three spines. Maxillipedal palp article 4 elongated, bearing a strong spine at its tip. Gnathopod 1 about half the size of gnathopod 2, palms of both gnathopods slightly oblique, convex, defined by a rounded convexity.

Pereiopod 1, article 2 with four long setae posteriorly, article 4 $1\frac{1}{2}$ times longer than broad, anteriorly slightly produced to overlap article 5; article 5 almost as broad as long; article 6 slender with six heavy spines along posterior margin, the last extending to the tip of the dactyl and comparable in width to it. (Pereiopods 2 and 3 are missing.)

Pereiopod 5, article 2 serrate posteriorly and anteriorly, article 4 with two fascicles of spines posteriorly. Second pleonal epimeron bearing a group of five plumose setae on its outer surface. Third pleonal epimeron quadrate.

Uropod 1, rami subequal. Uropod 2, peduncle with two dorsal and one terminal spine, inner ramus nearly twice as long as outer. Uropod 3 rami foliaceous, fringed with long plumose setae.

Material: A single damaged male, 10 mm, recovered in two portions such that pereiopods 3 and 4 were missing on both sides. Unique.

Records: PED 18 V (1).

Remarks: Distinguished from other members of the genus by the very long rostrum, the setae on the second pleonal epimeron, and the third uropods. The gnathopods resemble those of *M. simillimus* and *M. pectinatus* but the defining lobes are more rounded and not spinose.

Family **Podoceridae***Laetmatophilus purus* Stebbing, 1888

Laetmatophilus purus Stebbing, 1888: 1198, pl. 132. K. H. Barnard, 1916: 274.

Records: MOR 243 Z (80).

Diagnosis: Article 2 of gnathopod 2 broad, channeled anteriorly, article 6 with palm long, undefined, a broad lobe near the hinge followed by a narrow blunt tooth; pereon transversely corrugated; articles 5 and 6 of gnathopod 1 subequal and setose, 6 abruptly widening at its base, dactyl toothed.

Distribution: Endemic, South West Africa to Morrumbene.

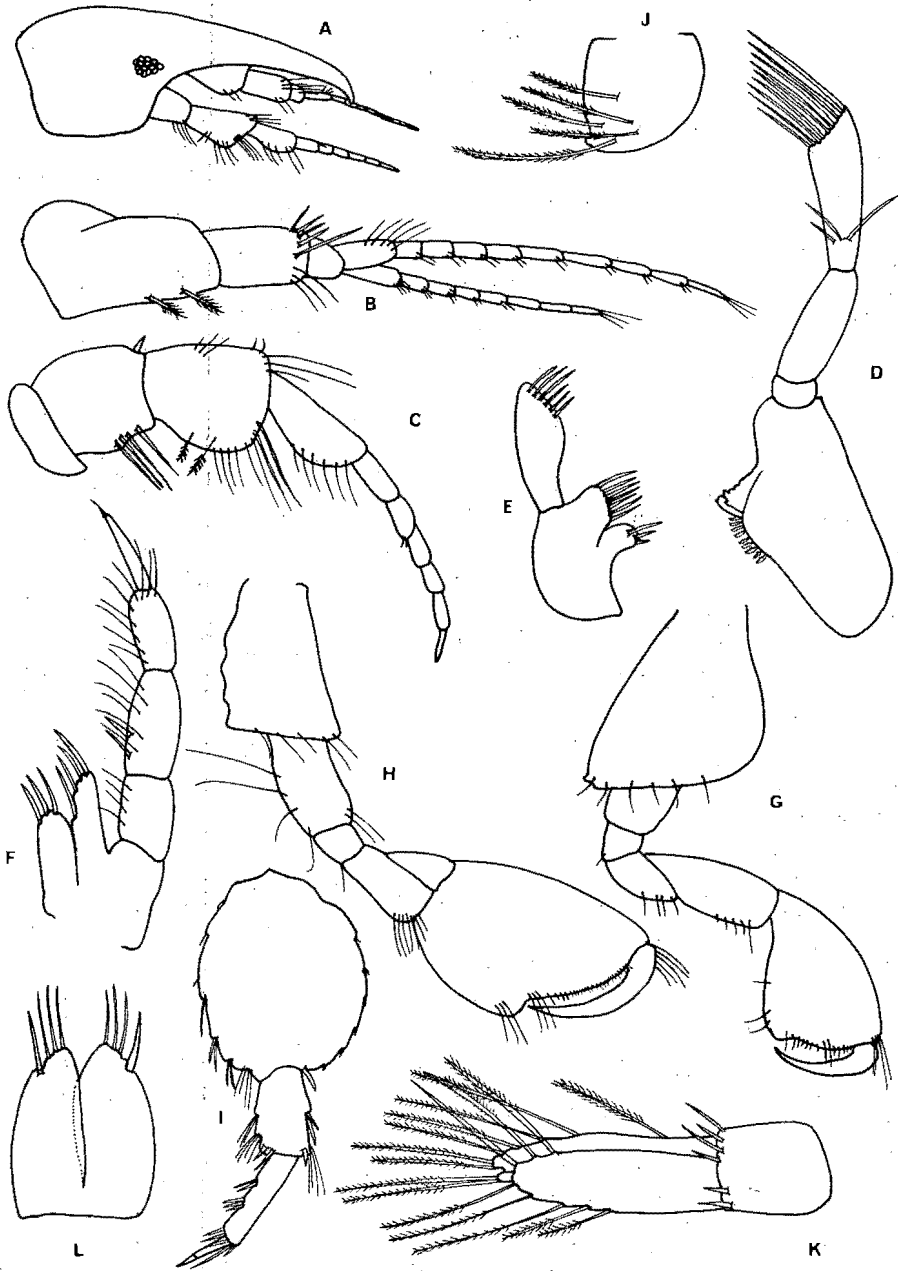


Fig. 10. *Metaphoxus* sp., male, 10 mm.

A. Head. B. Antenna 1. C. Antenna 2. D. Mandible. E. Maxilla 1. F. Maxilliped. G. Gnathopod 1. H. Gnathopod 2. I. Pereiopod 5. J. Pleonal epimeron 2. K. Uropod 3. L. Telson.

Laetmatophilus tridens Barnard, 1916

Laetmatophilus tridens K. H. Barnard, 1916: 275, pl. 28, fig. 22.

Records: PED 10 Q (1).

Diagnosis: Pereon segments 2-4 with small medio-dorsal tubercles; dactyl of gnathopod 1 very thick and very convex, distally cut into ten closely-set spine-teeth; article 2 of gnathopod 2 with two anterior keels, one ending acutely, the other subacutely, palm setose, distally bearing three teeth, that closest to the hinge triangular, the second cylindrical and the third broad and denticulate.

Distribution: Endemic, Saldanha Bay to Moçambique.

Podocerus cristatus (Thompson, 1879)

Podocerus cristatus: K. H. Barnard, 1916: 276. J. L. Barnard, 1962: 67, fig. 31.

Records: PED 15 G (4).

Diagnosis: Pereon segments 6 and 7 and pleon segments 1 and 2 medio-dorsally carinate (on large specimens small carinae may also appear on segments 5 or even 4 and 3); gnathopod 2 palm bearing a denticulate lobe near the hinge followed by a conical tooth.

Distribution: Cosmopolitan in tropical and warm-temperate seas.

Podocerus inconspicuus (Stebbing, 1888)

Podocerus palinuri K. H. Barnard, 1916: 277, pl. 28, fig. 23.

Podocerus inconspicuus: Pirlot, 1938: 356, fig. 160.

Records: PED 16 W (1).

Diagnosis: Head with a low rounded dorsal keel; pereon segments 1-7 and pleon segments 1 and 2 dorsally carinate; gnathopod 2 male with palm bearing a flat tooth near the hinge and a small conical one below it.

Distribution: Indian Ocean and west coast of South Africa.

Family **Stenothoidae***Stenothoe gallensis* Walker, 1904

Stenothoe gallensis: K. H. Barnard, 1916: 154; 1925: 344. J. L. Barnard, 1955: 3 fig. 1.

Records: JAN 12 S (2).

Diagnosis: Gnathopod 2 male with hind margin of article 4 finely crenulate, palm straight, densely hirsute, a double tooth near base of dactylus; uropod 3 uniramous, ramus bi-articulate and slightly shorter than peduncle, article 2 curved upwards, finely denticulate dorsally.

Distribution: Mediterranean, Caribbean, Hawaii, Indian Ocean.

Stenothoe valida Dana, 1853

Stenothoe affinis: K. H. Barnard, 1925: 345.

Stenothoe valida: Ledoyer, 1967: 125, fig. 4b. Sivaprakasam, 1967: 373, fig. 2a-b.

Records: JAN 12 Q (1); Cabo da Inhaca (Kalk 1958).

Diagnosis: Gnathopod 2 male with the hind margin of article 4 entire, palm slightly concave, a large, distally directed tooth and a marked incision near the base of the dactylus; uropod 3, article 2 of ramus straight, not denticulate.

Distribution: Cosmopolitan in tropical and temperate seas.

Superfamily TALITROIDEA

Family Hyalidae

Hyale grandicornis Kröyer, 1845

Hyale grandicornis: K. H. Barnard, 1916: 230. Stephensen, 1949: 33, figs 14-15. K. H. Barnard, 1955: 93, fig. 46.

Records: Among seaweeds on the east coast of Inhaca Island (Macnae & Kalk, 1958).

Diagnosis: Eyes large, nearly meeting on top of the head; gnathopod 2 article 2 not lobed, article 3 with a small lobe, palm of male oblique, with a pocket-like cavity and a double tubercle carrying two spines defining it from a fairly long hind margin.

Remarks: *Hyale grandicornis* Kröyer and *Hyale novaezealandia* (Thompson) were at one stage separated by differences in spination of uropods 1 and 2 and pereopod 4. K. H. Barnard (1916) found that these characters were not consistently correlated in different populations and united the species. Apparently, one of the several forms predominates in any one population to the almost complete exclusion of the other forms. Hurley (1957) suggests that environmental factors determine the genetic balance achieved by different populations.

Distribution: Indo-Pacific, Tristan da Cunha, South West Africa, Gough Island.

Parhyale inyacka (Barnard, 1916)

Hyale inyacka K. H. Barnard, 1916: 233, pl. 23, fig. 4.

Parhyale inyacka: J. L. Barnard, 1955: 23, fig. 12. Sivaprakasam, 1969b: 562, fig. 6.

Records: IN 159 B (1); MOR 40 Z (18); MOR 75 A (11); MOR 232 D (3).

Diagnosis: Antenna 2 half body length, twice as long as antenna 1; gnathopod 2 male with article 6 elongate-oval, palm oblique, convex; pereopod 3 with hind margin of article 2 serrate, a marked indent centrally; article 6 of pereopods 4 and 5 spinose posteriorly; peduncle of uropod 3 slightly longer than outer ramus, inner ramus small but distinct.

Remarks: Shoemaker (1956), in a review of the genus, united *P. inyacka* (Barnard) with *Hyale hawaiiensis* (Dana) but this has not been accepted by Bulycheva (1957) or Sivaprakasam (1969b).

Distribution: Cosmopolitan in warm-temperate and tropical seas.

Family **Talitridae**

Orchestia ancheidos (Barnard, 1916)

Talorchestia ancheidos: K. H. Barnard, 1916: 221, pl. 27, figs 35–36; 1940: 470, fig. 31.

Records: MOR 179 A (5); MOR 180 A (abundant); MOR 193 A (1); POE 8 A (common); Masiene (near Limpopo River mouth) (Barnard 1940).

Diagnosis: Eyes separated by less than their diameter; coxa 2 with a strong rounded lobe on upper posterior edge; gnathopod 1 male, article 5 strongly expanded distally and longer than subtriangular article 6; gnathopod 2 male, article 6 oval, widest at its midpoint, palm convex, spinose, forming an almost even curve with hind margin, dactyl strongly curved.

Distribution: Malagasy, Moçambique, South Africa.

Orchestia anomala Chevreux, 1901

Talorchestia malayensis: K. H. Barnard, 1955: 93.

Orchestia anomala: Sivaprakasam, 1969a: 297, fig. 1.

Records: Among *Botrychia* on intertidal rock faces, west coast of Inhaca and along drift line, Northern Bay (Macnae & Kalk, 1962).

Diagnosis: Articles 4–6 of gnathopod 1 male with scabrous lobes; dactyl of gnathopod 2 male with averted point; hind margin of article 2 of pereopod 5 with numerous serrations, pleonal epimera 2 and 3 with submarginal ridges.

Remarks: K. H. Barnard (1935) united *T. malayensis* Tattersall with his *Orchestia floresiana*, which were synonymized with *O. anomala* Chevreux by Schellenberg (1938). Barnard again, however, recorded *T. malayensis* as a distinct species in 1955. The synonymy established by Schellenberg is nevertheless generally accepted since *T. malayensis* shows a palm in the female gnathopod 1.

Distribution: Indo-Pacific.

Orchestia notabilis (Barnard, 1935)

Fig. 11.

Parorchestia notabilis K. H. Barnard, 1935: 291, fig. 8.

Records: MOR 85 B (6); MOR 95 C (4).

Diagnosis: Gnathopod 2 male strongly developed, article 6 ovate, the straight palm separated from the hind margin by a slight step, one conical tooth in the

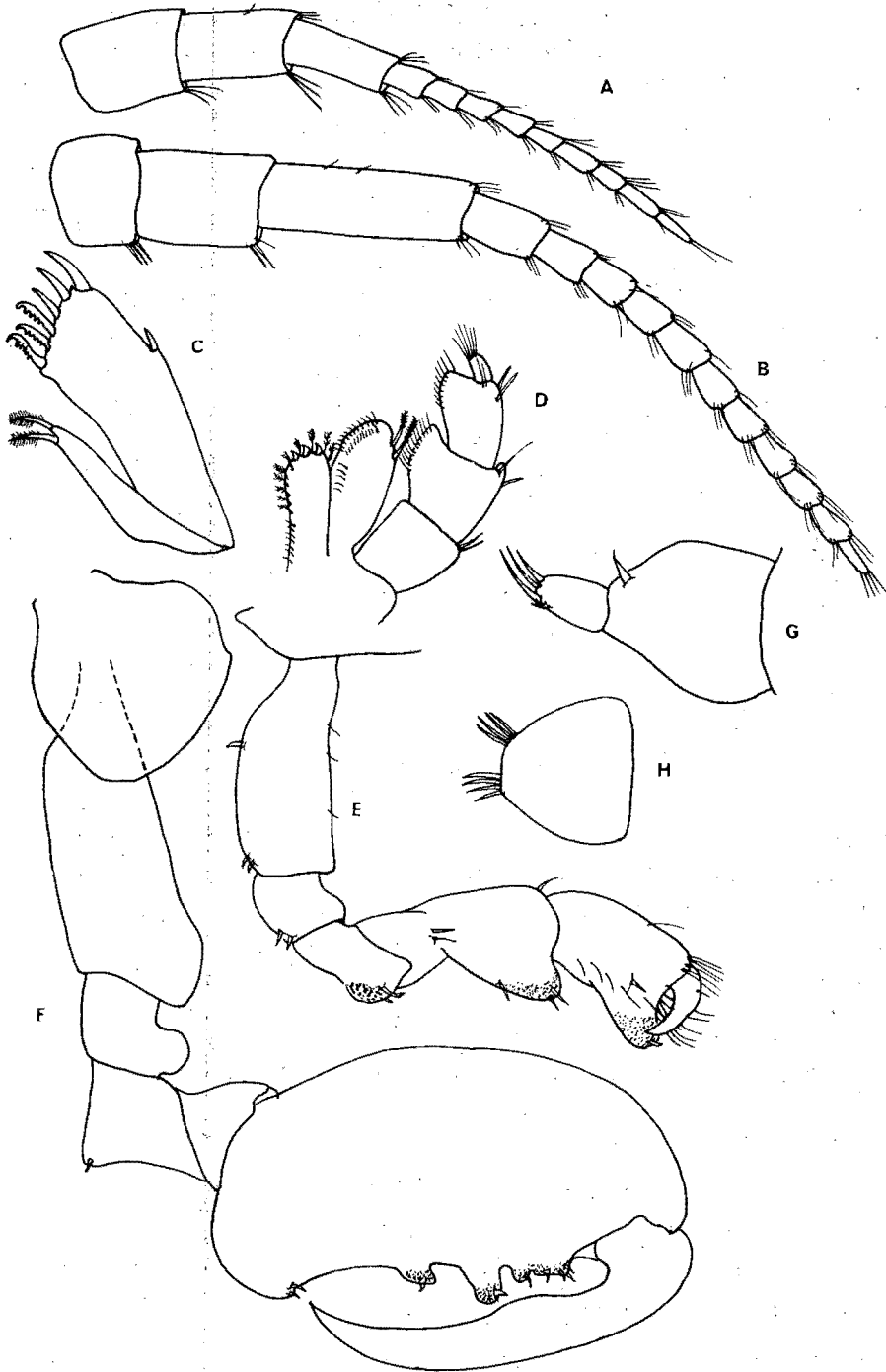


Fig. 11. *Orchestia notabilis* (Barnard), male, 9 mm.

A. Antenna 1. B. Antenna 2. C. Maxilla 1. D. Maxilliped. E. Gnathopod 1. F. Gnathopod 2.
G. Uropod 3, lateral view. H. Telson.

centre of the palm, a slightly larger one distally and two small rounded projections between the latter and the hinge; inner margin of dactyl sinuous, tip not averted; pereopod 5, article 2 with slight and widely spread setiferous indents.

Distribution: India, Moçambique.

Talorchestia australis Barnard, 1916

Talorchestia australis K. H. Barnard, 1916: 220, pl. 27, figs 33-34; 1940: 470, fig. 30.

Records: MOR 250 F (2); MOR 255 F (1); IN 159 F (fairly common).

Diagnosis: Eyes distance apart equal to diameter; coxa 2 not lobed posteriorly; gnathopod 1 male, article 5 triangular with a prominent apical lobe, longer than article 6, article 6 not strongly expanded, apically lobed, palm concave; article 6 of gnathopod 2 male oblong, widest across the defining angle, palm nearly transverse, slightly convex, a small pellucid lobe at palmar angle, spinose, dactyl matching palm, evenly curved.

Distribution: Endemic, South West Africa to Moçambique.

Suborder CAPRELLIDEA

Family Aeginellidae

Metaprotella haswelliana (Mayer, 1882)

Metaprotella haswelliana: Sundara Raj, 1927: 126, pl. 16. McCain & Steinberg, 1970: 54.

Records: MOR 212 J (3).

Diagnosis: Last two thoracic segments fused, segment 5 long and slender; pereopods 1 and 2 almost as long as branchiae; dorsal surface of head and body spinose; article 1 of antenna 1 bearing a small tubercle with 1 seta.

Distribution: Indo-Pacific.

Monoliropus falcimanus Mayer, 1904

Monoliropus falcimanus: Sivaprakasam, 1967: 382, fig. 4g-h. McCain & Steinberg, 1970: 56.

Records: PED 7 N (1); PED 20 U (4).

Diagnosis: Hand of gnathopod 2 male long, slender, sickle-shaped, the palmar edge covered by long setae; basis of gnathopod 2 slender with lateral ridges, longer than pereon segment 2; branchiae long and slender; pereopods 1 and 2 very small; penultimate joint of maxillipedal palp produced into a pointed process; flagellum of antenna 1 nine-articulate in male and eight-articulate in female.

Distribution: Ceylon, India, Moçambique. This is the first record from Africa.

Orthoprotella mayeri Barnard, 1916

Orthoprotella mayeri K. H. Barnard, 1916: 284; 1925: 372. McCain & Steinberg, 1970: 57.

Records: PED 8 N (4); PED 15 S (3); PED 20 T (5); on the hydroid *Lytocarpus philippinus* on Inhaca Island (Macnae & Kalk, 1958).

Diagnosis: Young specimens smooth, but those over 10 mm with lateral spines on the anterior margins of segment 2 and above the base of gnathopod 2; segment 3 also with antero-lateral spines and a pair of dorsal tubercles; gnathopod 2 with palm sparingly setose, a single triangular tooth near the finger hinge with a narrow parallel-sided slit cut in the apex and extending nearly to the basal line; pereopods 1 and 2 half as long as branchiae, uniarticulate, apically setose.

Distribution: Indo-Pacific.

Family **Caprellidae***Caprella equilibra* Say, 1818

Caprella equilibra: McCain, 1968: 25-30, figs 12-13. McCain & Steinberg, 1970: 19.

Records: JAN 12 L (18).

Diagnosis: Basis of gnathopod 2 less than half the length of pereon segment 2; a spine between the insertions; palm very oblique, defined by a small tooth and with a large rectangular tooth distally; large males with very elongate pereon segment 2 and peduncular articles of antenna 1 enlarged.

Distribution: Cosmopolitan, 0-300 m.

Caprella scaura Templeton, 1836

Caprella scaura: K. H. Barnard, 1925: 371. McCain, 1968: 40-44, figs 17-18. McCain & Steinberg, 1970: 37.

Records: On *Cymodocea*, Inhaca Island (Macnae & Kalk, 1958).

Diagnosis: Large, anteriorly-directed cephalic spine; pereon segments 1-2 male elongate, basis of gnathopod 2 equal to pereon segment 2; gnathopod 2 male with hand elongate, palm with two teeth and a distal rectangular projection.

Remarks: K. H. Barnard (1925) amalgamated *C. laevipes* Mayer with *C. scaura* but this synonymy has not been followed, since *C. laevipes* does not bear grasping spines on the pereopods.

Distribution: Cosmopolitan.

Hemiaegina minuta Mayer, 1890

Hemiaegina minuta: McCain, 1968: 61-64, figs 29-30. McCain & Steinberg, 1970: 51.

Records: JAN 14 C (1).

Diagnosis: Flagellum of antenna 2 bi-articulate; mandibular palp absent, molar present; in dorsal view, pereonites centrally expanded; pereopods 1 and 2 uniarticulate; a pair of ventral spines between the insertions of gnathopod 2.

Distribution: Cosmopolitan in warm and temperate seas.

Family **Phtisicidae***Phtisica marina* (Slabber, 1769)

Phtisica marina: K. H. Barnard, 1916: 283. McCain, 1968: 91-97, fig. 46. McCain & Steinberg 1970: 64.

Records: PED 15 R (1).

Diagnosis: Head anteriorly rounded; gnathopod 1 male, hand subtriangular, palm very oblique, defined by a projecting lobe armed with several spines; gnathopod 2 male, carpus shorter than merus, hand widest proximally, palm defined by two grasping spines, otherwise lacking teeth; pereopods 1 and 2 six-segmented.

Distribution: Atlantic, extending into the Mediterranean and Black Sea, and around southern Africa as far as Moçambique.

SUMMARY

A synthesis is presented of the known gammaridean and caprellid amphipod fauna of Moçambique south of 20°S. Material was collected by the University of Cape Town and the South African Museum, reference also being made to specimens collected by the University of the Witwatersrand. Samples were taken at Morumbene estuary, Inhaca Island, Jangamo reef, Maxixe, Lagoa Poelala, Ponta Zavora and by dredging to depths up to 135 m, a total of 65 species being recovered. One genus *Janice*, and three species, namely *Gitanopsis mariae*, *Janice spinidactyla* and *Gammaropsis inhaca* are described as new to science. Five others, namely *Paragrubia vorax* Chevreux, *Photis kapapa* Barnard, *Lyssianassa cinghalensis* (Stebbing), *Monoliropus falcimanus* Mayer and *Maera serrata* Schellenberg, are new records for southern Africa (here defined as Africa south of 20°S).

Brief diagnoses, references and distributions are given for each species.

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C. L. Griffiths

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PART I
THE GAMMARIDEA AND CAPRELLIDEA OF
SOUTHERN MOÇAMBIQUE

VOLUME 62 PART 6

JANUARY 1974

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PART 2
THE GAMMARIDEA AND CAPRELLIDEA OF
SOUTH WEST AFRICA SOUTH OF 20°S

By
C. L. GRIFFITHS

Cape Town Kaapstad

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By

C. L. GRIFFITHS

C.S.I.R. Oceanographic Research Unit, Zoology Department, University of Cape Town

(With 7 figures)

[MS. accepted 20 March 1973]

CONTENTS

	PAGE
Introduction	169
The collecting stations	170
Systematics	176
Gammaridea	177
Caprellidea	205
Summary	206
Acknowledgements	206
References	206

INTRODUCTION

The present paper is the second of a series aimed at reviewing present knowledge of the gammaridean and caprellid amphipod fauna of Africa south of 20°S. The first of the series (Griffiths 1973) dealt with the coast of Moçambique below 20°S and recognized 65 species, 3 of them new to science and over 30 new to Moçambique. South West Africa has been chosen as the second area for analysis since its fauna makes an interesting comparison with that of Moçambique, particularly because collecting effort in the two areas has been comparable.

The marine environment of South West Africa is considerably colder than that of Moçambique, the dominant water current being the northerly flowing Benguela current; in contrast with the warm Moçambique current which bathes the east coast. The flow of the Benguela current is most intense in summer with a flow of $\frac{1}{2}$ to 1 knot 150 km offshore between 34°S and 23°S.

At Walvis Bay temperature at 50 m varies between 17°C in summer and 10°C in winter. Off Moçambique the main body of the southward flowing current passes some 90 to 120 km offshore at a surface velocity of about 3 knots (the velocity falling rapidly with depth). Inshore counter-currents often form, their intensities varying with local wind conditions. Temperature at 50 m varies from 24 to 27°C.

The first record of an amphipod from South West Africa appears to have been one of a species of *Podocerus* by Schultze (1907). These animals were about 2 mm long with transverse brown bands across their backs and were found living in small upright tubes attached to firm objects in mud and projecting about 4 mm above the surface. This species has not yet been identified or described.

Since this early record little work has been done on the Amphipoda of the area. A few records are to be found in the works of K. H. Barnard and in J. L. Barnard (1961) while more detailed surveys have been conducted by Schellenberg (1925, 1953) and Penrith & Kensley (1970).

In 1925 Schellenberg recorded 17 species from South West Africa to which 11 further species were added in 1953, 5 of them new to science. A time of inactivity followed Schellenberg's work and it was not until 1970 that Penrith & Kensley, while undertaking a survey of rocky shores in the vicinity of Lüderitz, recorded 28 species of amphipod, 15 of them new to the area; a striking demonstration of the work still to be done.

The University of Cape Town Ecological Survey has been collecting in South West Africa since 1946, particularly between 1956 and 1964. In the following account records resulting from these collections are incorporated with those of earlier workers in listing the fauna of the area. The University's collections are coded according to area and the various areas are discussed separately below: the stations are shown on Figures 1 and 2.

THE COLLECTING STATIONS

South West Africa dredge stations (SWD)

The series of samples referred to by this code consists of 95 grabs and dredges taken by the Division of Sea Fisheries research vessel *Sardinops*, the R.V. *Rockeater* and the University of Cape Town's vessel the R.V. *Gilchrist*. Thirty-four of the 95 samples contained amphipods with a total of 37 species being recorded. The general pattern of distribution indicates a number of locally abundant species, well differentiated into soft and hard substrate types, plus a larger number of relatively rare but well distributed species.

Most of the samples from soft substrates were dominated by a single species, but different species dominated closely adjoining samples. The number of amphipods in a 0.2 m² grab often exceeded 400 individuals of the dominant species, while the total population per m² was frequently in excess of 1 000. This patchy distribution is well exemplified by the two common ampelisoids of the area, *Ampelisca brevicornis* and *A. palmata*. Although each dominated most of the samples in which it was found, and both occurred in close proximity to each other, they were seldom recovered from the same sample. Each of the species probably prefers a particular substrate type although unfortunately insufficient data has been collected to confirm this.

Apart from the species of *Ampelisca* mentioned, the common species of mud

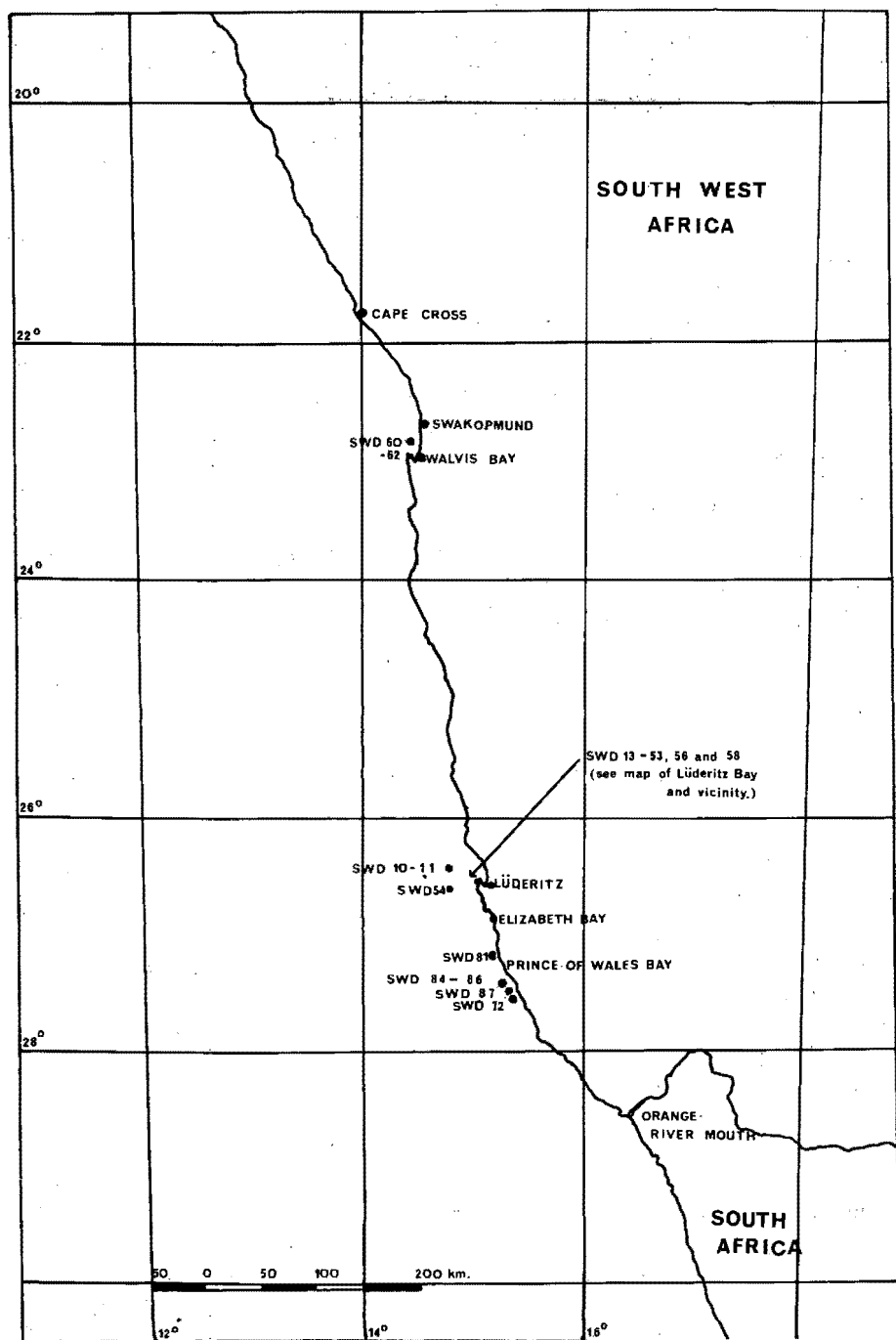


Fig. 1. South West Africa south of 20°S showing the positions of collecting stations mentioned in the text.

and sandy-mud off South West Africa were *Eriopisa epistomata* n. sp, *Perioculodes longimanus*, *Photis longidactylus* n. sp, *Photis longimanus* and *Megaluropus namaquaeensis*. *Paramoera capensis* was also common but it is found on the bottom and in the plankton in all areas, whether hard or soft bottomed.

The total population density in rocky areas was generally lower than that of mud and sand (where shelter and food are more abundant). However, occasional areas of high population density were found, especially where sponges and bryozoa covered the rocks. *Laetmatophilus purus* and *Caprella equilibra* were the most common species found in rocky areas.

South West Africa dredge station data

Catalogue no.	G = grab	D = dredge		A = airlift pump		Temp. °C.
	Date	Position	Depth (m)	Substrate	Gear	
SWD 10	10/6/63	26°34'S/14°55'E	128	Mud and rock	D	11,6
SWD 11	10/6/63	26°34'S/14°55'E	128	Mud and gravel	G	11,6
SWD 13	10/6/63	26°35'S/15°01'E	71	Rock	D	12,1
SWD 16	10/6/63	26°36'S/15°06'E	26	Sandy mud	D	12,2
SWD 18	10/6/63	26°36'S/15°06'E	26	Sandy mud and shells	G	12,2
SWD 21	11/2/63	26°37'S/15°04'E	35	Rock and shells	D	11,6
SWD 24	11/2/63	26°38'S/15°06'E	11	Mud and shells	D	11,6
SWD 26	11/2/63	26°38'S/15°06'E	11	Mud and shells	D	11,6
SWD 27	11/2/63	26°38'S/15°06'E	11	Mud and shells	G	11,6
SWD 30	13/2/63	26°38'S/15°08'E	6	Grey mud	G	13,6
SWD 33	13/2/63	26°38'S/15°08'E	6	Grey mud	G	13,6
SWD 36	11/2/63	26°38'S/15°08'E	9	Dark mud	D	13,4
SWD 37	11/2/63	26°38'S/15°08'E	9	Dark mud	G	13,4
SWD 39	12/2/63	26°37'S/15°04'E	40	Rock	G	11,9
SWD 40	12/2/63	26°36'S/15°06'E	35	Fine sand	D	11,9
SWD 41	13/2/63	26°36'S/15°06'E	35	Fine sand, shells	G	11,9
SWD 44	13/2/63	26°36'S/15°10'E	5	Mud and sand	G	12,7
SWD 45	13/2/63	26°36'S/15°10'E	5	Mud and sand	G	12,7
SWD 46	13/2/63	26°25'S/15°09'E	7	Mud and sand	G	12,9
SWD 47	13/2/63	26°25'S/15°09'E	7	Mud and sand	G	12,9
SWD 48	13/2/63	26°37'S/15°10'E	6,5	Mud and sand	G	12,8
SWD 49	13/2/63	26°37'S/15°10'E	6,5	Mud and sand	G	12,8
SWD 51	14/2/63	26°37'S/15°07'E	20	Fine mud and sand	D	11,9
SWD 54	14/2/63	26°40'S/14°50'E	91	Rock	D	11,9
SWD 56	14/2/63	26°37'S/15°07'E	20	Muddy sand	G	11,9
SWD 58	14/2/63	26°39'S/15°02'E	73	Mud and gravel	D	11,9
SWD 60	9/9/63	22°53'S/14°27'E	7,6	Dark mud	G	—
SWD 61	9/9/63	22°53'S/14°27'E	14	—	G	—
SWD 62	9/9/63	22°53'S/14°27'E	14	Black mud	G	—
SWD 72	-/6/64	27°37'S/15°28'E	23	Rock	A	—
SWD 81	22/7/64	27°13'S/15°15'E	32	Rock	A	—
SWD 84	21/6/64	27°30'S/15°25'E	24	Gravel, rock	A	—
SWD 86	20/6/64	37°30'S/15°25'E	35	Gravel, stone	A	—
SWD 88	20/9/64	27°31'S/15°26'E	35	—	A	—

Lüderitz shore (LU)

One hundred and twenty-two shore samples have been taken by the University of Cape Town in the Lüderitz area and are denoted by the code LU.

Lüderitz Bay (Fig. 2) is situated on the coast of South West Africa at

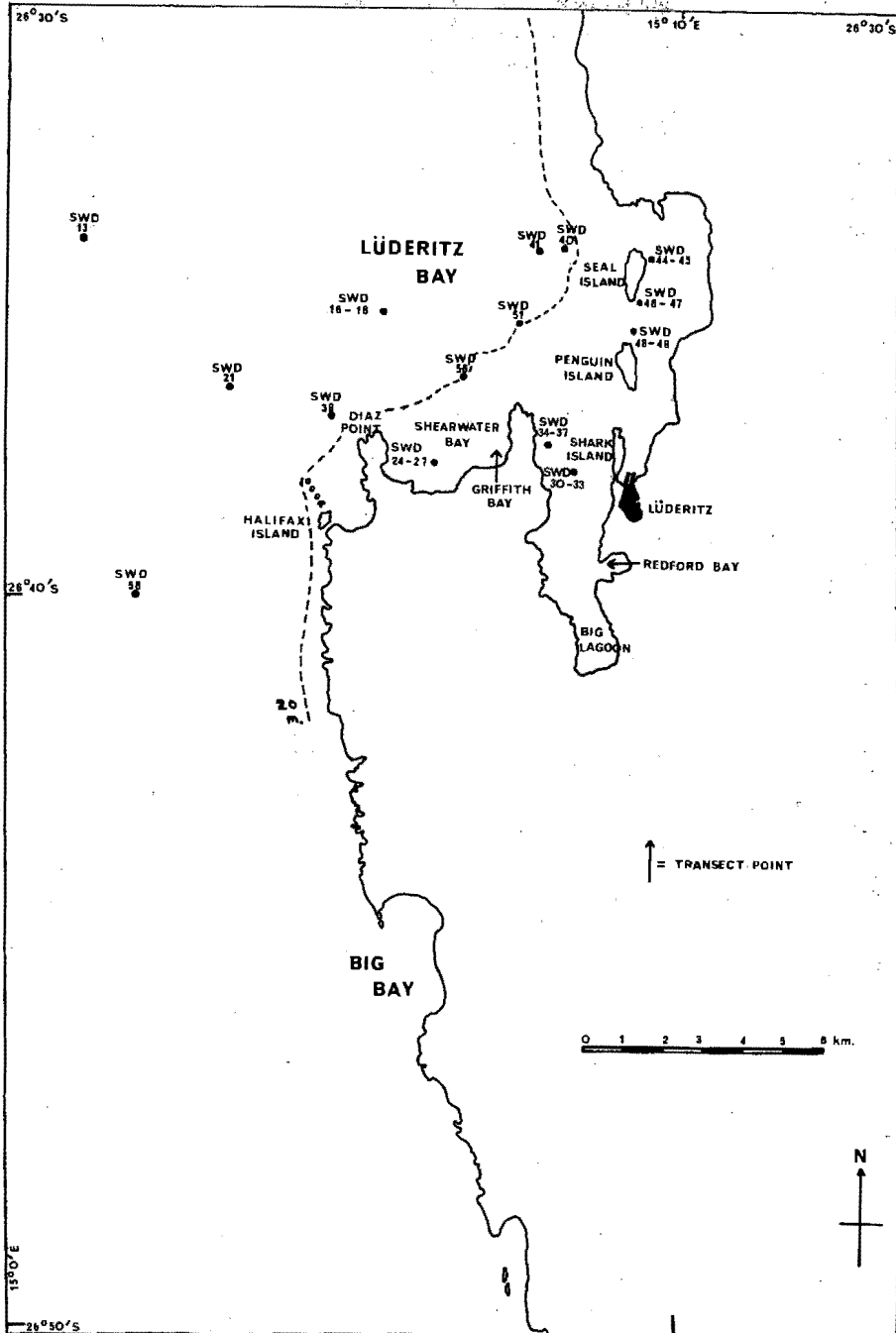


Fig. 2. Collecting stations in the Lüderitz Bay area.

26°36'S/15°08'E. The main bay is divided into a number of subsidiary bays and contains three rocky islands, Seal Island, Penguin Island and Shark Island. The shore north of the town is either sandy or rocky while the sheltered southern arm of the bay is lined with rock interspersed with considerable areas of mud, particularly to the south of Redford Bay. Shearwater Bay and Big Bay are sandy bays moderately sheltered from wave action by rocky headlands. The area between these two bays, and south of Big Bay, is rocky and exposed to powerful wave action.

The University of Cape Town team has collected 27 species of amphipod in this area. The fauna of muddy areas of the southern area of the bay lacked diversity, being dominated by *Ampelisca palmata*, which was extremely abundant (although this is inadequately reflected by the number of specimens collected since very small samples were taken at each station). The only other species of importance in muddy areas were *Lysianassa ceratina* and *Eriopisa epistomata* n. sp.

The intertidal sand flats of Shearwater Bay were almost completely barren of amphipods, with just a few *Talorchestia quadrispinosa* occurring along the drift line. The barren nature of the intertidal zone here can probably be attributed to the extreme heat and high rate of desiccation experienced in the area at low tide.

The most diverse fauna in the bay was that of rocky areas, where the greatest diversity of niches was available. Members of the genus *Hyale* were abundant, five species of that genus being recorded. Many other species were locally common, among them *Allorchestes inquirendus* on seaweeds and *Calliopiella michaelsoni* under limpets. Further details of amphipod records in rocky areas of Lüderitz Bay may be found in Penrith & Kensley (1970).

As well as the bottom samples mentioned above, a single plankton haul was taken at night near the town, revealing considerable numbers of *Paramoera capensis* and *Lysianassa ceratina*.

Lüderitz station data

Catalogue no.	Date	Locality
LU 8	16/7/46	—
LU 33	-/7/57	Intertidal rocks (location not recorded)
LU 34	-/7/57	Intertidal rocks (location not recorded)
LU 36	23/2/63	Redford Bay (mud transect, general sievings)
LU 41	23/2/63	Redford Bay (mud transect, general sievings)
LU 42	23/2/63	Redford Bay (mud transect, general sievings)
LU 44	23/2/63	Redford Bay (mud transect, general sievings)
LU 46	23/2/63	Redford Bay (mud transect, general sievings)
LU 52	24/2/63	Animals from seaweeds, Diaz Point
LU 53	24/2/63	General collection, Diaz Point
LU 54	24/2/63	General collection, Diaz Point
LU 55	24/2/63	Exposed rock, Diaz Point
LU 56	24/2/63	Exposed rock, Diaz Point
LU 57	24/2/63	Exposed rock, Diaz Point
LU 58	24/2/63	Exposed rock, Diaz Point
LU 61	25/2/63	Lüderitz township, general collection
LU 64	25/2/63	Shearwater Bay sand transect

Catalogue no.	Date	Locality
LU 66	25/2/63	Shearwater Bay sand transect
LU 76	26/2/63	End of Big lagoon, general digging
LU 78	11/2/63	Redford Bay, general mud collection
LU 81	26/2/63	End of Big Lagoon, general collection from muddy rocks
LU 82	26/2/63	End of Big Lagoon, general collection from muddy rocks
LU 86	11/2/63	Diaz Point, general collection, rocks
LU 94	21/2/63	Redford Bay, under muddy stones
LU 97	22/2/63	Shark Island, west side
LU 98	22/2/63	Shark Island, west side
LU 99	22/2/63	Shark Island, west side
LU 101	22/2/63	Shark Island, west side
LU 103	22/2/63	Shark Island, west side
LU 104	22/2/63	Shark Island, west side
LU 105	22/2/63	Shark Island, west side
LU 106	22/2/63	Shark Island, west side
LU 107	22/2/63	Shark Island, west side
LU 108	22/2/63	Shark Island, west side
LU 112	22/2/63	Shark Island, west side, bases of <i>Laminaria</i>
LU 113	22/2/63	Shark Island, west side, bases of <i>Champia</i>
LU 114	22/2/63	Shark Island, west side
LU 121	22/2/63	Plankton haul, Lüderitz township, 11 p.m.

'Africana' dredges (AFR)

Material collected by vessels of the Division of Sea Fisheries, notably the R.S. *Africana II*, and donated to the University of Cape Town, is denoted by the symbol AFR. Few of these samples fall within the region considered here, and only two of these include amphipods. Three species were recovered from these samples; *Paramoera capensis* and *Atylus guttatus* from 7 m, and *Lembooides crenatipalma* from 60 m depth.

Africana station data

Catalogue no.	Date	Vessel	Locality	Depth	Substrate
AFR 1278	9/11/48	<i>Palinurus</i>	26°07'S/14°58'E	7 m	Sand and mud
AFR 1335	13/11/48	<i>Africana</i>	25°51'S/14°50'E	60 m	Green mud

South West Africa shore (SWA)

This symbol denotes material collected from the South West African shore other than the Lüderitz area. Amphipoda were collected at only three SWA stations, five species being recovered, none of them common.

South West Africa shore station data

Catalogue no.	Date	Location
SWA 1	-/7/57	Swakopmund—general collection
SWA 2	-/7/57	Elizabeth Bay—general collection
SWA 4	12/7/57	Cape Cross shore—general collection

Orange River mouth (OR)

This material was collected when the University of Cape Town Ecological Survey Team, under Professor A. C. Brown, visited the Orange River mouth in 1956. The results of this survey have been published in detail by Brown (1959).

The Orange River estuary was found to be faunistically barren, indeed no true estuarine species of any group was found. This paucity can be attributed to the fact that during the wet season fresh-water flow extends throughout the system and estuarine conditions cease to exist. Those animals which were recovered represented either true fresh-water types (found in the upper reaches), or true marine types (from the sea shore). The only amphipod found, *Talorchestia quadrispinosa*, occurred above the drift line on the beach and amongst the sand dunes surrounding the river mouth.

<i>Orange River station data</i>		
<i>Catalogue</i>		
<i>no.</i>	<i>Date</i>	<i>Location</i>
OR 2	7/7/56	Above H.W.S. at mouth of estuary

SYSTEMATICS

In the following account families and genera are presented in alphabetical order. No attempt has been made to provide a full list of synonyms or references for each species, but reference is given to one or more of the better and more readily available descriptions. Preference has been given to descriptions which incorporate good figures, or which refer specifically to the southern African region. Brief diagnostic descriptions are given for those species not described in Part I of this series. The diagnoses are intended to differentiate the species in question from others of the same genus, or in the largest genera (e.g. *Ampelisca*) from those members of the genus found in the southern African area.

Diagnoses of Gammaridean families and genera, and keys to generic level, may be found in J. L. Barnard (1969b, 1970). References to all known caprellid species and species lists for various areas are found in McCain & Steinberg (1970). Taxonomy within the Caprellidea follows McCain (1970). The type material of all new species has been placed in the South African Museum, Cape Town.

The limbs of the pereon are referred to throughout as gnathopods 1 and 2, followed by pereopods 1 to 5 (as in K. H. Barnard and J. L. Barnard). It should be noted that authors such as McCain, Schellenberg and Ledoyer number pereopods according to the pereon segments on which they occur, i.e. gnathopods 1 and 2 followed by pereopods 3 to 7. The articles of a limb are numbered from 1 to 7, the coxal plate (whether present or absent) being the first article. Numbers in brackets following each catalogue number refer to the number of individuals in that sample. Material from depths of over 1 000 m is not considered to form a part of the continental fauna and has thus been excluded.

Suborder GAMMARIDEA

Family Ampeliscidae

Ampelisca brachyceras Walker, 1904

Ampelisca brachyceras Walker, 1904: 252, pl. 2, fig. 13.

Records: SWD 21F (1).

Diagnosis: Antennae subequal, less than $\frac{1}{2}$ body length, antenna 2 originating immediately below 1; gnathopod 1 normal; article 5 of pereopods 3 and 4 produced postero-distally for $\frac{3}{4}$ length of article 6; article 3 of pereopod 5 longer than article 4, article 4 not lobed posteriorly; hind margin of third pleonal epimeron convex, lower corner upturned.

Distribution: Ceylon, southern Africa.

Ampelisca brevicornis (Costa, 1853)

Ampelisca brevicornis: Ledoyer, 1967: 123, fig. 2. Reid, 1951: 204-210, figs 9-15.

Records: SWD 44J (10), SWD 46J (9), SWD 47N (33), SWD 48R (3), SWD 49Q (47); Lüderitz (Schellenberg 1925, Penrith & Kensley 1970).

Diagnosis: Antenna 1 shorter than peduncle of 2, antenna 2 half body length, its origin well separated from that of antenna 1; gnathopod 1 normal; article 5 of pereopods 3 and 4 not produced posteriorly-distally; article 3 of pereopod 5 slightly shorter than article 4, article 4 lobed postero-distally to completely overlap triangular article 5; hind margin of third pleonal epimeron deeply bisinuate, lower corner with a large upturned tooth.

Distribution: Cosmopolitan.

Ampelisca fusca Stebbing, 1888

Ampelisca fusca Stebbing, 1888: 1052, 1651, pl. 105.

Records: SWD 84W (6), SWD 88E (1), SWD 86B (common).

Distribution: Mozambique to South West Africa.

Remarks: The present specimens are much larger (12 mm excluding antennae) than those from the east coast and differ from them in having a distinct red pigment spot behind the upper pair of eyes and short plumose setae on the inside of article 2 of pereopod 5.

Ampelisca palmata K. H. Barnard, 1916

Ampelisca palmata K. H. Barnard, 1916: 136, pl. 28, figs 30-31.

Records: SWD 16K (17), SWD 18C (8), SWD 21G (14), SWD 26G (11), SWD 27M (11), SWD 33E (448), SWD 36C (116), SWD 37K (188), SWD 40L (5), SWD 41H (7), SWD 44G (1), SWD 45F (1), SWD 48P (2), SWD 51H (6), SWD 60C (32), SWD 61C (159), SWD 62C (55); LU 46B (21), LU 78E (8), LU 121J (1).

Distribution: Senegal to Moçambique.

Remarks: This species is more variable than indicated by Barnard's description, in particular the antennae may be considerably shorter than in the type specimens. This has led to confusion between this species and *Ampelisca spinimana* but the two can be readily distinguished by the presence of a produced lobe on the anterior margin of article 4 of pereopod 5 in *A. palmata*.

Ampelisca spinimana Chevreux, 1887

Ampelisca spinimana: Chevreux & Fage, 1925: 81, fig. 73.

Ampelisca spinimana f. aspinosa Schellenberg, 1925: 127.

Records: Lüderitz (Schellenberg 1925).

Diagnosis: Antenna 1 slightly exceeding peduncle of 2; antenna 2 less than $\frac{1}{2}$ body length, its origin well separated from that of antenna 1; palm of gnathopod 1 spinose (variable); article 5 of pereopods 3 and 4 not produced postero-distally; article 3 of pereopod 5 longer than article 4, article 4 not lobed anteriorly or posteriorly; hind margin of third pleonal epimeron straight, lower corner quadrate.

Distribution: Eastern Atlantic.

Family **Amphilochidae**

Cyproidea ornata Haswell, 1880

Cyproidea ornata: Schellenberg, 1953: 113, fig. 2. Ledoyer, 1967: 125, fig. 4a.

Records: Lüderitz, Walvis Bay (Schellenberg 1953).

Diagnosis: Article 3 of gnathopod 2 postero-distally produced into an acute lobe, terminating in two large spines; article 6 not expanded distally, palm smooth.

Distribution: Indo-Pacific, extending to South West Africa.

Gitanopsis pusilla K. H. Barnard, 1916

Gitanopsis pusilla K. H. Barnard, 1916: 144.

Records: Swakopmund, Lüderitz (Schellenberg 1925); Lüderitz (Penrith & Kensley 1970).

Distribution: Moçambique to South West Africa.

Hoplopleon medusarum K. H. Barnard, 1932

Hoplopleon medusarum K. H. Barnard, 1932: 105, fig. 54.

Records: Lüderitz (Penrith & Kensley 1970).

Diagnosis: Hind margin of article 2 of pereopods 4 and 5 straight; dactyl of gnathopod 2 simple; palm of gnathopod 2 transverse, concave, defining angle rounded, bearing four strong spines.

Distribution: Endemic, Saldanha Bay to Lüderitz.

Hoplopleon similis Schellenberg, 1953

Hoplopleon similis Schellenberg 1953: 113, fig. 2.

Records: Lüderitz (Schellenberg 1953).

Diagnosis: Hind margin of article 2 of pereopods 4 and 5 straight; dactyl of gnathopod 2 cut into two teeth; palm of gnathopod 2 transverse, concave, defined by a single very large spine.

Distribution: Endemic, known only from the above record.

Family **Ampithoidae***Ampithoe falsa* K. H. Barnard, 1932

Ampithoe brevipes: K. H. Barnard, 1916: 255, pl. 28, fig. 34.

Ampithoe falsa: Ruffo, 1969: 57, figs 18-20.

Records: Lüderitz (Penrith & Kensley 1970).

Diagnosis: Article 2 of gnathopod 2 not lobed; article 6 of gnathopod 1 rectangular, palm transverse; palm of gnathopod 2 concave but otherwise not distinct from hind margin, a small rectangular tooth at the finger hinge; article 2 of pereopods 1 and 2 ovate, strongly expanded.

Distribution: Gulf of Aden, Arabian Sea, India, southern Africa.

Ampithoe ramondi (Audouin, 1826)

Ampithoe vaillanti: K. H. Barnard, 1916: 253.

Ampithoe ramondi: Ledoyer, 1967: 135, fig. 24.

Records: LU 61Z (1), LU 112S (2); Lüderitz (Penrith & Kensley 1970).

Distribution: Cosmopolitan in warm and temperate seas.

Family **Aoridae***Aora typica* Kröyer, 1845

Aora typica: Ledoyer, 1967: 131, fig. 15.

Records: LU 112V (2); SWD 51N (1); Lüderitz (Schellenberg 1953, Penrith & Kensley 1970).

Distribution: Cosmopolitan.

Lemboides afer Stebbing, 1895

Lemboides afer: K. H. Barnard, 1932: 222, fig. 137.

Records: SWD 26J (2).

Diagnosis: Pereon of ♂ with ventral processes on segments 2-6; gnathopod 1 ♂ palm transverse, a broad denticulate cavity between a strong tooth near finger hinge and two smaller teeth at defining angle, dactyl hardly exceeding palm;

gnathopod 2 palm concave, defined by a large stout spine, dactyl slightly longer than palm, denticulate.

Distribution: Endemic, False Bay to South West Africa.

Lemboides crenatipalma K. H. Barnard, 1916

Lemboides crenatipalma K. H. Barnard, 1916: 240, pl. 28, figs 9-10.

Records: SWD 13T (4), SWD 21M (2), SWD 58B (8); AFR 1335 (present).

Diagnosis: Pereon of ♂ without ventral processes; gnathopod 1 ♂, palm transverse, crenulate, defined by a blunt lobe-like projection; dactyl overlapping palm; gnathopod 2 palm concave, defined by a long, stout, subacute tooth with a short spine at its base; dactyl longer than palm, denticulate.

Distribution: Endemic, Saldanha Bay to South West Africa.

Lembos hypacanthus K. H. Barnard, 1916

Lembos hypacanthus K. H. Barnard, 1916: 237, pl. 28, figs 5-6.

Records: SWD 60B (3), SWD 61B (8), SWD 62B (9); Swakopmund (Schellenberg 1925).

Diagnosis: Male pereon segments 3-7 with strong medio-ventral spines; article 6 of gnathopod 1 ♂ equal to article 5, palm slightly oblique, a small tooth near the finger hinge and a spiniform process and stout spine at the defining angle, finger serrate, longer than palm; gnathopod 2 ♂ with distal apex of article 2 produced into a recurved hook.

Distribution: Endemic, Natal to South West Africa.

Lembos teleporus K. H. Barnard, 1955

Lembos teleporus K. H. Barnard, 1955: 94, fig. 47. Ledoyer, 1967: 133, figs 16-17.

Records: SWD 13U (4), SWD 21P (4).

Distribution: Southern Africa, Madagascar.

Family **Calliopiidae**

Calliopiella michaelsoni Schellenberg, 1925

Calliopiella michaelsoni Schellenberg, 1925: 147. K. H. Barnard, 1940: 451, fig. 24.

Records: LU 33H (1), LU 81P (2), LU 96C (1), LU 108A (1); SWA 2T (1); Swakopmund (Schellenberg 1925); Lüderitz (Penrith & Kensley 1970).

Diagnosis: Found under limpets, where it is common. Article 6 of gnathopod 2 twice as long as broad, palm oblique, defined by 2-5 large spines, dactyl cut into 5 teeth, a setule in each notch; uropod 3 with rami equal to peduncle, spination variable; telson varying from cleft to rounded with age.

Distribution: Endemic, False Bay to South West Africa.

Remarks: Extensive sampling throughout the range of this species has shown it to be much more variable than was previously thought. Colour varies with the species of *Patella* under which the animal lives and there seems to be a preference for particular hosts. For example, 90% of *Patella compressa* shelter *Calliopiella* of a bright pink to plum colour, whereas 50% of *Patella tabularis* reveal pale blue specimens with bright red dorsal stripes. Less favoured species are *Patella barbara* (5%, pale brown), *P. cochlear* (5%, pale brown to green), *P. argenvillei* (10%, whitish with green gut), and *P. granularis* (20%, pale brown to green). Other species of *Patella* show an intermediate percentage of amphipods.

In all species of *Patella* there is a size relationship between the host and amphipod, specimens of *Calliopiella* being as large as 17 mm in the largest *Patella compressa*. The amphipods are almost always found in pairs, the male and female being of similar size.

A number of morphological changes with age have been noted, for example, in the smallest specimens (4 mm) the telson is up to 40% cleft, a continuous range being found through notched and emarginate, to smoothly rounded in the largest specimens (17 mm). The uropods are also extremely variable, uropod 3 ranging from pointed to rounded and showing a variable number of spines on its inner surface. Terminal setae may or may not be present.

The number of defining spines on gnathopod 2 varies between 2 and 5. These morphological changes appear to vary solely with size and are independent of the species of *Patella* occupied.

Metaleptamphopus membrisetata J. L. Barnard, 1961

Metaleptamphopus membrisetata J. L. Barnard, 1961: 105, fig. 73.

Records: 20°04'S/11°56'E, 537 m (J. L. Barnard 1961).

Diagnosis: Antenna 1 longer than antenna 2, accessory flagellum uniarticulate; upper lip rounded below, not incised; gnathopods subchelate, not greatly elongate, article 5 slightly shorter than 6; article 7 of pereopods 1-5 bearing anterior pectinations in the form of short spines; rami of uropod 3 subequal to the elongate peduncle, spinose, outer slightly the shorter; telson apically rounded, smooth.

Distribution: The above record is the only one to date.

Family **Corophiidae**

Corophium acherusicum Costa, 1857

Corophium acherusicum: Sivaprakasam, 1970b: 156, fig. 14.

Records: Lüderitz (Penrith & Kensley 1970).

Diagnosis: Article 4 of antenna 2 ♂ distally produced into a large curved tooth with a smaller tooth on its inner edge; rostrum obsolete, head deeply invagi-

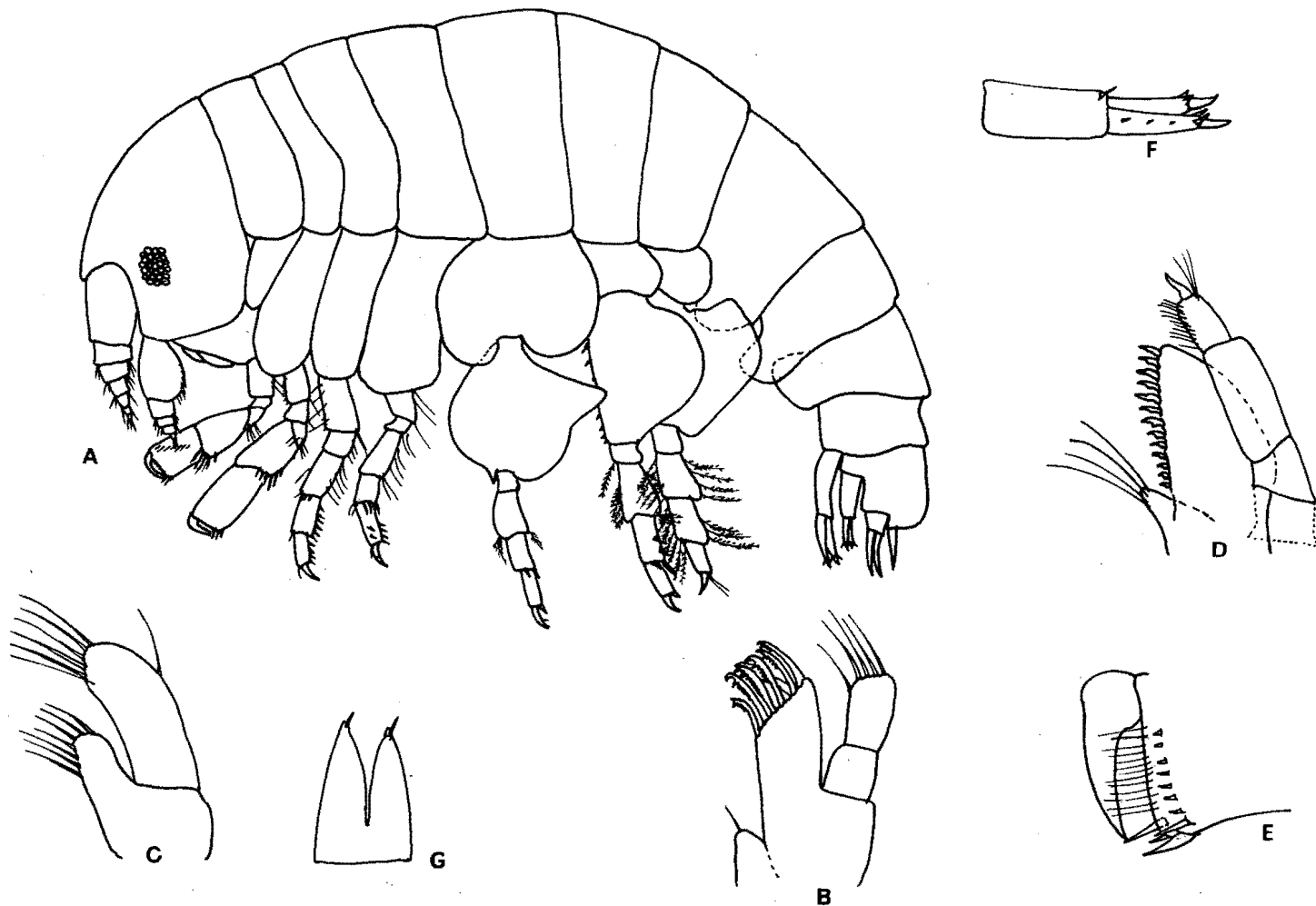


Fig. 3. *Guernea (Guernea) rhomba* n. sp., holotype, female, 3 mm.
 A. Lateral aspect. B. Maxilla 1. C. Maxilla 2. D. Maxilliped. E. Palm of gnathopod 2. F. Uropod 1. G. Telson.

Remarks: These specimens, although they lie close to *Guerneia coalita* (Norman), differ from that species in the following respects:

Urosomite 2 plus 3 is not dorsally notched; article 4 of antenna 2 is lobed; the inner lobe of maxilla 2 has seven rather than two setae; article 2 of pereopod 3 lacks anterior setae and has a pronounced posterior semiacute process; the spines on uropods 1 and 2 are much shorter.

The short spines on the uropods of this species also distinguish it from other members of the subgenus *Guerneia*.

Species of the subgenus *Prinassus* are distinguished by a retrose dorsal process on the urosome of the female and a high dorsal keel in the male.

Distribution: Lüderitz to Cape Town.

Polycheria atolli Walker, 1905

Polycheria antarctica: K. H. Barnard, 1916: 211.

Polycheria atolli: Ledoyer, 1967: 131, fig. 13a.

Records: Lüderitz (Schellenberg 1925).

Distribution: Antarctic and southern oceans, tropical Indian Ocean.

Family **Eusiridae**

Paramoera bidentata K. H. Barnard, 1932

Paramoera bidentata K. H. Barnard, 1932: 211, figs 118 m, 129.

Records: Lüderitz (Penrith & Kensley 1970).

Diagnosis: Rostrum small, acute; post-antennal angle of head acutely produced; eyes nearly meeting on top of the head; pleon segments 1 and 2 postero-dorsally produced into subacute triangular teeth; third pleonal epimeron quadrate with a small postero-inferior point; urosomite 1 with a dorsal transverse depression medially; apices of telson acute, with 2 unequal spiniferous notches.

Distribution: Endemic, Still Bay to South West Africa.

Paramoera capensis (Dana, 1853)

Paramoera capensis: K. H. Barnard, 1916: 183-186; 1932: 210, figs 118 m, 129.

Records: SWD 16H (18), SWD 26B (190), SWD 27K (2), SWD 30F (1), SWD 33F (2), SWD 36E (1), SWD 37N (2), SWD 41K (4), SWD 44K (70), SWD 45E (1), SWD 46K (3), SWD 47P (22), SWD 48M (65), SWD 49R (75); LU 52H (4), LU 54E (5), LU 57H (1), LU 58M (1), LU 61Z (7), LU 82Q (1), LU 99J (3), LU 101Z (2), LU 112R (21), LU 121K (53); AFR 1278E; Swakopmund, Possession Island, Lüderitz (Schellenberg 1925); Lüderitz (Penrith & Kensley 1970).

Diagnosis: Rostrum represented by a short point; post-antennal angle of head rounded-quadrate, not produced; eyes nearly meeting on top of the head; pleon

segments lacking teeth; third pleonal epimeron rounded-quadrate with a small postero-inferior point; urosomite 1 not dorsally depressed; apices of telson truncate, cut into five to eleven teeth.

Distribution: Atlantic, and Indo-Pacific.

Family Gammaridae

Ceradocus rubromaculatus (Stimpson, 1855)

Ceradocus rubromaculatus: Ledoyer, 1968: 39, fig. 14.

Records: SWD 81E (1); LU 54A (6); Swakopmund, Lüderitz (Schellenberg 1925); Lüderitz (Penrith & Kensley 1970).

Diagnosis: Pleon segments 1-5 postero-dorsally toothed; pleonal epimera 1-3 strongly serrate posteriorly and slightly serrate below; gnathopod 2 with article 6 large, palm oblique, defined by a large tooth and with a large flat topped tooth along its length; rami of uropod 3 large, foliate, subequal, both margins strongly serrate; telson cleft nearly to base, two spines at apex of each lobe; colour mottled or banded rose pink.

Distribution: Indo-Pacific, extending to South West Africa.

Elasmopus japonicus Stephensen, 1932

Elasmopus spinimanus (non Walker 1905): K. H. Barnard, 1925: 358.

Elasmopus japonicus: Sivaprakasam, 1968: 278, figs 3-5.

Records: LU 57H (1).

Distribution: Japan, India, southern Africa.

Eriopisa epistomata n. sp.

Fig. 4

Description of male (14 mm): Anterior margin of head concave, eyes absent; antenna 1 extending to end of body, articles 1 and 2 subequal, article 3 very short, flagellum 30-40 articulate, twice as long as peduncle, accessory flagellum of two small articles; antenna 2 less than half as long as 1, article 2 produced ventrally, articles 4 and 5 subequal, flagellum of one long and two small articles; primary cutting edge of mandible with five teeth, secondary cutting edge of four teeth, palp article 3 medially expanded and setose, subequal to article 2; inner plate of maxilla 1 heavily setose, outer plate with six spines; inner and outer plates of maxilliped with plumose setae.

Article 4 of gnathopod 1 with a posterior pellucid lobe, articles 5 and 6 subequal, palm evenly convex, dactyl equal to palm; coxa 1 strongly produced anteriorly; gnathopod 2 much larger than 1, article 5 subtriangular, article 6 oval, palm oblique, irregularly nodulose, convex near finger hinge but concave proximally, defined by two large spines; dactyl marginally longer than palm;

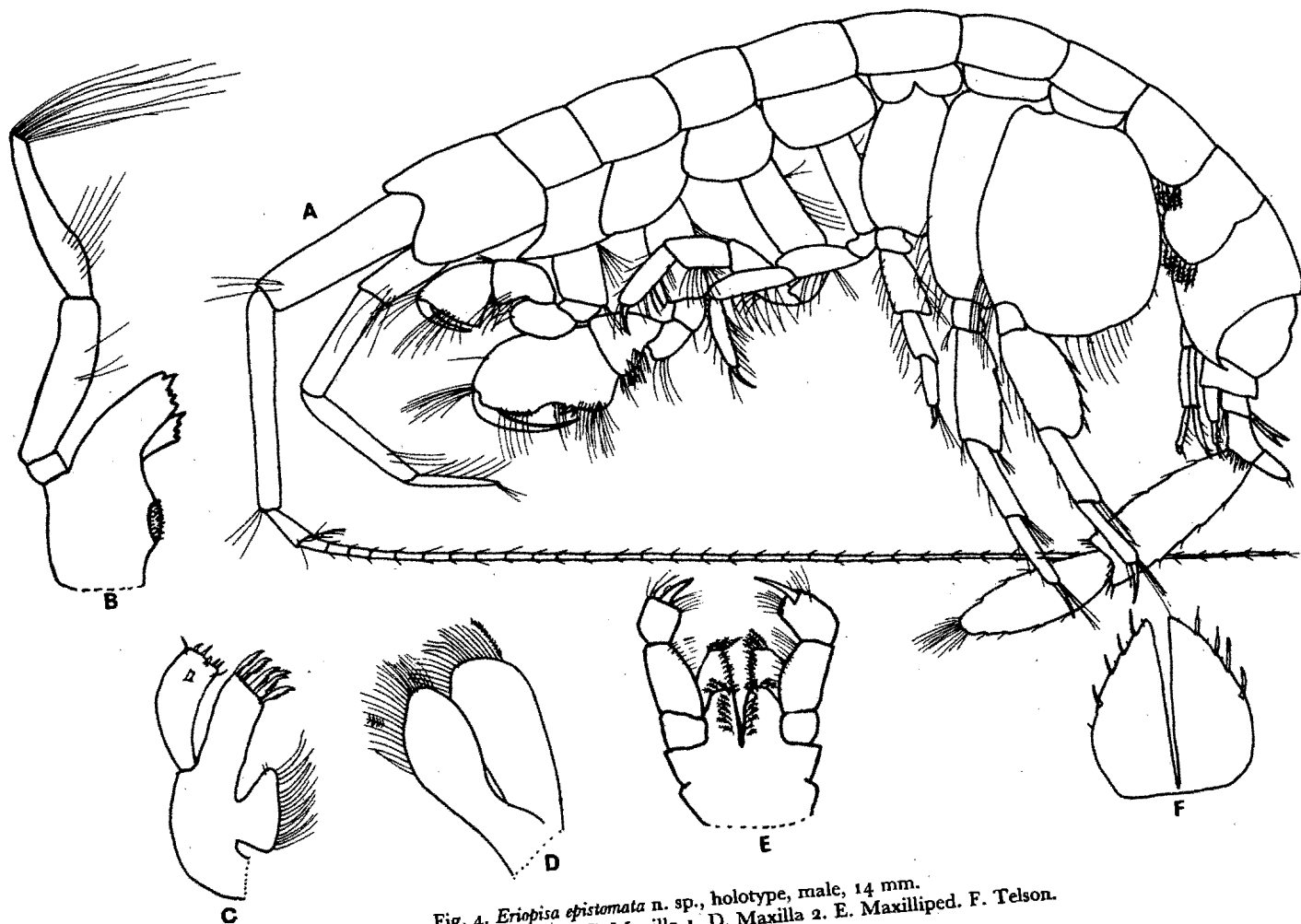


Fig. 4. *Eriopisa epistomata* n. sp., holotype, male, 14 mm.
A. Lateral aspect. B. Mandible. C. Maxilla 1. D. Maxilla 2. E. Maxilliped. F. Telson.

branchiae large, extending beyond the end of article 2 of gnathopods; pereopods 1-3 much smaller than 4 and 5, branchiae extending to tip of article 3; article 2 of pereopods 4 and 5 expanded, especially that of pereopod 5; article 4 of both limbs with 4 or 5 posterior serrations.

Pleonal epimera 1 and 2 rounded-quadrate, ventrally bearing a few plumose setae; third pleonal epimeron postero-distally produced into an upturned tooth; peduncle of uropod 1 quadrate in section, dorsal surface terminating in two spines, inner ramus with one dorsal and two terminal spines, outer ramus with three dorsal and two terminal spines; uropod 2 shorter than 1 but with similar spination; peduncle of uropod 3 subtriangular, inner ramus small, oval with two terminal spines; outer ramus as long as pleon and urosome together, articles 1 and 2 subequal, article 1 distally excavate and laterally slightly serrate, its distal corners spinose, article 2 with 5 serrations on each edge and a dense terminal tuft of setae; telson extending to tip of peduncle of uropod 3, cleft to base, outer margin of each lobe with four spines.

Female: Similar to male but with a smaller second gnathopod, its palm less deeply concave; antenna 1 shorter than that of male.

Holotype: SAM A13070, male, 14 mm.

Type-locality: SWD 37L, 26°38'S/15°08'E, 11 February 1963, depth 9 m, substrate dark mud.

Remarks: This species belongs to the group with an elongate article 2 to the outer ramus of uropod 3. From amongst these species the lack of eyes and produced third pleonal epimeron distinguish it from *E. chilensis* (Chilton) while the inner plate of maxilla 1 differs from that of *E. garthi* J. L. Barnard, and the anteriorly produced coxa 1 from that of *E. philippensis* Chilton. *E. elongata* (Bruzilius) can be distinguished by its lateral cephalic notch.

Material: SWD 27N (8), SWD 30B (25), SWD 33B (31), SWD 36B (13), SWD 37L (24), SWD 47Q (1), SWD 48N (1), SWD 49T (1); LU 78B (8).

Eriopisella epimera n. sp.

Fig. 5

Description of male (5 mm): Ocular lobes angularly rounded, eyes composed of about nine well spaced ocelli; article 1 of antenna 1 large, remaining segments missing; article 2 of antenna 2 ventrally produced, article 4 extending to tip of article 1 of antenna 1, flagellum 9 articulate; maxilla 2 setose only terminally; articles 2 and 3 of mandibular palp subequal, article 3 terminally with three long setae.

Coxa 1 produced forwards as far as rear of eye; coxae 1-4 each with two small setae in minute notches at antero-distal corners; article 4 of gnathopod 1 finely setose posteriorly, article 6 as long as 5, palm convex, not defined; palm of gnathopod 2 defined by a large spine and bearing six large spines along its length, each with a seta on its posterior margin; article 5 of pereopods 1 and 2

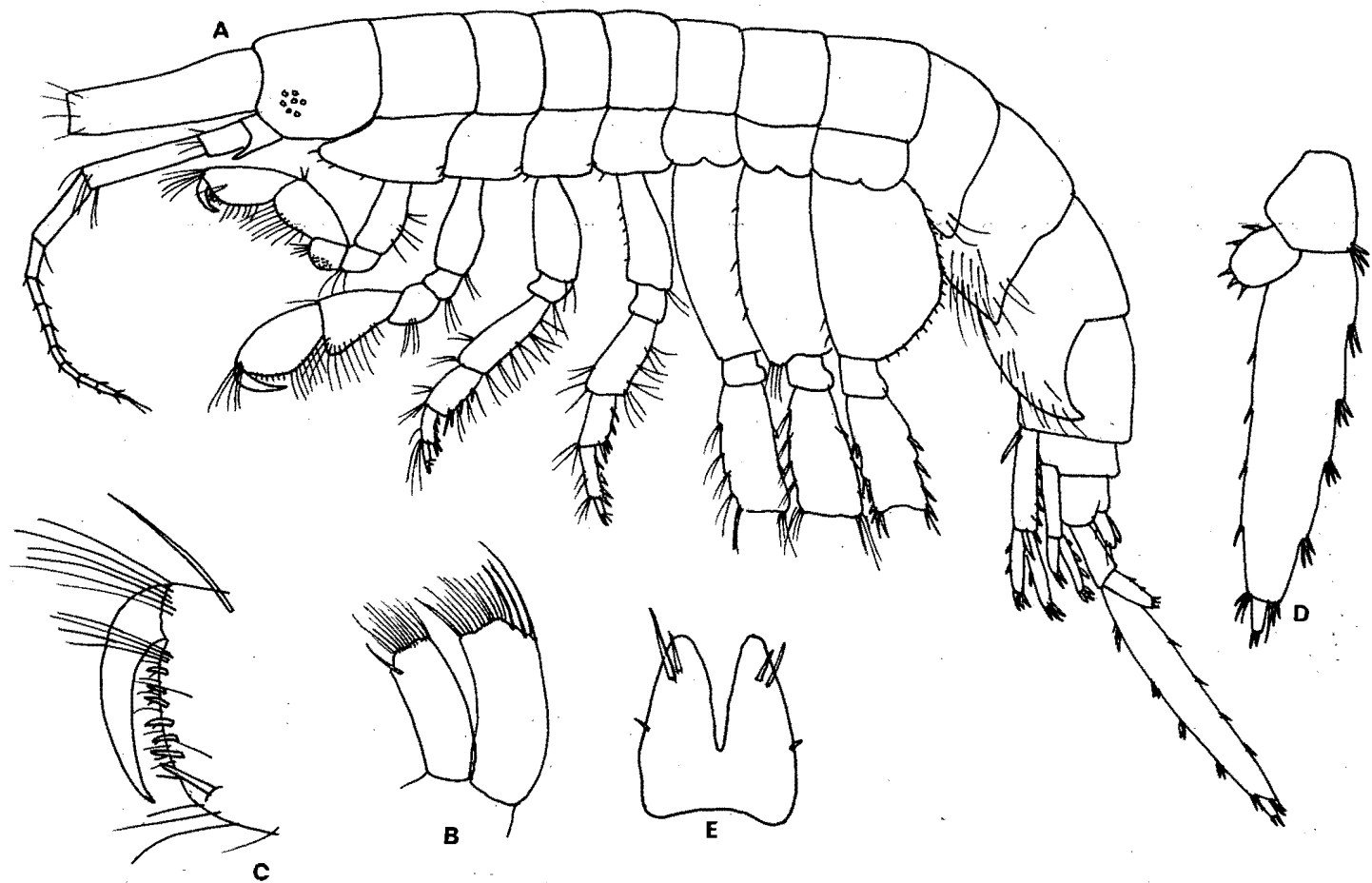


Fig. 5. *Eriopisella epimera* n. sp., holotype, male, 5 mm.
A. Lateral aspect. B. Maxilla 2. C. Palm of gnathopod 2. D. Uropod 3. E. Telson.

with three groups of heavy spines along posterior margins, article 6 with four groups of spines, dactyl medially constricted, bearing two accessory setae at the constriction; pereopods 3-5 with article 2 progressively wider and faintly serrate posteriorly, a short seta in each notch.

First pleonal epimeron postero-distally quadrate with two long setae on its outer surface; second pleonal epimeron with about 20 lateral setae; third pleonal epimeron broadly convex below, posteriorly produced into a large upturned tooth, scattered setae on its lower external surface; peduncle of uropod 1 with a large proximal spine on its ventral surface and another large spine at its apex; rami subequal; outer ramus of uropod 2 slightly shorter than inner; outer ramus of uropod 3 20% as long as inner ramus, with three terminal and two lateral spines, inner ramus bi-articulate, article 2 hardly 10% as long as article 1, article 1 with four lateral fascicles of spines on its inner margin, four single spines along its outer edge and a terminal group of spines which extend to the tip of article 2; telson 70% cleft, two large terminal and a small lateral spine on each lobe.

Female: Exactly like the male except for the possession of brood lamellae. Ovigerous at 4.5 mm.

Colour (as preserved): Uniform brown.

Holotype: SAM A13071, male, 5 mm.

Type-locality: SWD 13R, 26°35'/15°01'E, 10 February 1963, depth 71 m, substrate rocky.

Remarks: The present species is readily distinguishable from *Eriopisella capensis* K. H. Barnard and *E. pusilla* Chevreux by its relatively well-developed eyes and produced third pleonal epimeron. It lies closer to *E. sechellensis* Chevreux and *E. nagatai* Gurganova, but of these the former has a hirsute article 2 to pereopod 5 and a longer article 2 of uropod 3, while in the latter article 2 of pereopod 5 overhangs article 3 and articles 5 and 6 of gnathopod 2 are triangular.

Material: SWD 13R (9).

Maera grossimana (Montagu, 1808)

Maera grossimana: Chevreux & Fage, 1925: 239, figs 248, 250.

Records: Swakopmund (Schellenberg 1925).

Diagnosis: Coxa 1 acutely produced forwards; article 6 of gnathopod 2 longer than broad, palm oblique, regularly serrate (♂) or irregularly notched (♀), defined by a distinct tooth; third pleonal epimeron posteriorly smooth, postero-distally acutely produced; uropod 2 slightly exceeding 1 and 2, rami equal, truncate, terminally strongly setose.

Distribution: Mediterranean, Atlantic.

Maera hironellei Chevreux, 1900

Maera hironellei: Chevreux & Fage, 1925: 241, fig. 252. Reid, 1951: 239, fig. 34.

Records: Lüderitz (Penrith & Kensley 1970).

Diagnosis: Coxa 1 acutely produced forwards; article 6 of gnathopod 2 longer than broad, palm oblique, irregularly toothed but always with a larger tooth near finger hinge and an acute defining tooth; third pleonal epimeron posteriorly smooth, postero-distally slightly produced; uropod 3 considerably exceeding 1 and 2, rami subequal, rounded, terminally moderately setose.

Distribution: Eastern Atlantic, Mediterranean.

Maera inaequipes (Costa, 1851)

Maera inaequipes: J. L. Barnard, 1959: 25, pl. 5.

Records: SWD 21J (1), SWD 84Y (1); LU 86X (1), LU 99H (1), LU 112V (2), LU 114W (1); Lüderitz (Penrith & Kensley 1970).

Distribution: Cosmopolitan in tropical and temperate seas.

Maera vagans K. H. Barnard, 1940

Elasmopus levis K. H. Barnard, 1916: 200, pl. 27, fig. 15.

Maera vagans K. H. Barnard, 1940: 459.

Records: Lüderitz (Penrith & Kensley 1970).

Diagnosis: Coxa 1 not acutely produced forwards; article 6 of gnathopod 2 longer than broad, palm oblique, irregularly dentate, most of the teeth bearing spines; third pleonal epimeron posteriorly smooth, postero-distally slightly produced; uropod 3 slightly exceeding 1 and 2, rami equal, lanceolate, apices acute, not setose.

Distribution: Endemic, Mossel Bay to Lüderitz.

Megaluropus namaquaeensis Schellenberg, 1953

Megaluropus namaquaeensis Schellenberg, 1953: 117, fig. 5.

Records: SWD 16J (4), SWD 18D (6), SWD 26C (200), SWD 27L (7), SWD 41K (8), SWD 51F (88); Walvis Bay (Schellenberg 1953).

Diagnosis: Gnathopods simple; gnathopod 2 with article 5 medially dilated, article 6 linear; uropod 3 exceeding uropod 1, rami equal, foliaceous, outer 1-articulate.

Distribution: Endemic, Saldanha Bay to Walvis Bay.

Melita appendiculata (Say, 1818)

Melita fresnelii: K. H. Barnard 1916: 189, pl. 28, fig. 32.

Melita appendiculata: J. L. Barnard 1970b: 161, figs 103, 104.

Records: SWD 21N (1), SWD 36G (2), SWD 37Q (1).

Distribution: Cosmopolitan.

Melita orgasmos K. H. Barnard, 1940

Melita orgasmos K. H. Barnard 1940: 454. Sivaprakasam, 1966: 114, fig. 12k-m.

Records: LU 54B (11), LU 112V (1); Lüderitz (Penrith & Kensley 1970).

Diagnosis: Upper apex of article 6 of gnathopod 1 overhanging base of dactyl; article 6 of gnathopod 2 ♂ longer than broad, palm transverse, shorter than hind margin, defined by a rounded lobe, otherwise smooth, dactyl normal; pleon segments 1-3 smooth, 4 produced into a slender median tooth, 5 with two submedian spines on each side.

Distribution: India, southern Africa.

Melita subchelata (Schellenberg, 1925)

Melita fresnelii var. *subchelata* Schellenberg, 1925: 153. K. H. Barnard, 1932: 211, fig. 130.

Records: SWD 61F (3), SWD 62F (6); Lüderitz (Schellenberg 1925); Walvis Bay (K. H. Barnard 1932).

Diagnosis: Upper apex of article 6 of gnathopod 1 not produced; article 6 of gnathopod 2 ♂ broader than long, palm transverse, as long as hind margin, a single tooth near finger hinge; dactyl massive, inner margin sinuous, distally hooked; pleon segments all dentate.

Distribution: Endemic to South West Africa.

Family **Haustoriidae***Bathyporeia* sp.

Bathyporeia gracilis: K. H. Barnard, 1951: 704 [non Sars 1891]

Records: SWD 18A (3), SWD 26L (4), SWD 27M (2), SWD 48Q (1), SWD 51E (11), SWD 56S (2).

Diagnosis: Antenna 2 of adult ♂ as long as body; apex of article 1 of antenna 1 broadly rounded with four or five feathery setae on the ventral margin; article 4 of pereopod 3 expanded.

Distribution: Endemic, False Bay to South West Africa.

Remarks: Barnard's material has been re-examined by Vader (1970) and found to differ from *B. gracilis* Sars, the main point of difference being that in *B. gracilis* Sars the antenna 2 ♂ is short, having only 12 flagellar articles. The material lies close to but is not identical with *B. tenuipes* and is to be described as a new species by Vader.

Urothoe grimaldi Chevreux, 1895

Urothoe grimaldii: Chevreux & Fage, 1925: 99, fig. 93. K. H. Barnard, 1955: 84, fig. 41b.

Records: SWD 41L (8).

Diagnosis: Accessory flagellum long, five-articulate; gnathopods similar, article

6 elongate, slender, with a short blunt palm; article 5 of pereopod 3 twice as wide as long; dactyl shaped like a pruning-knife, six to eight slender spines in a single row along the front margin.

Distribution: India, eastern Atlantic, Mediterranean.

Family Isaeidae

Photis longidactylus n. sp.

Fig. 6

Description of male (5 mm): Head not quite as long as pereon segment 1; ocular lobes short, angular; eyes small, dark, composed of closely packed ommatidia; antenna 1 with ratio of peduncular articles 2:3:2, flagellum 7-articulate, accessory flagellum absent; antenna 2 equal to 1, article 2 produced ventrally, articles 4 and 5 equal, flagellum shorter than peduncle, 7-articulate.

Coxa 1 slightly produced forwards, 1.5 times as long as broad, coxae 2-4 similar in shape but slightly longer than coxa 1; article 2 of gnathopod 1 widening rapidly from a narrow attachment, article 6 hardly wider than, and about 1.2 times as long as article 2; palm slightly excavate, not defined, dactyl considerably longer than palm, cut into four teeth; gnathopod 2 with article 6 about 1.5 times as wide as article 2, palm concave, defined by a blunt process on the inner margin of the palm; dactyl extending beyond this process about halfway along hind margin of hand and closing outside the defining process, inner margin of dactyl cut into five teeth; pereopod 1 longer than 2, article 4 slightly shorter than article 2, anteriorly hirsute; articles 4 and 5 of pereopod 2 wider and stouter than those of pereopod 1; article 2 of pereopod 3 subrotund, article 6 distally with one large and one small spine, dactyl with a pair of accessory cusps; pereopod 4 similar to 3; pereopod 5 more elongate than 3 or 4, dactyl straight with two accessory cusps.

Pleonal epimera 1-3 smoothly rounded; uropods 1-3 terminating on the same plane; uropod 1 with its subequal lanceolate rami slightly upturned distally and $\frac{2}{3}$ length of peduncle; outer ramus of uropod 2 slightly shorter than inner, each with four dorsal spines and one long terminal spine, peduncle with a single distal spine on dorsal surface; outer ramus of uropod 3 subequal to peduncle, article 2 very short, with two small terminal spines and a group of setae lying alongside its origin, inner ramus less than 20% length of outer, terminating in one short spine; telson subquadrate, one seta at each distal corner.

Female: Ovigerous at 4 mm. Coxae much longer than those of the male, extending to end of article 2 of gnathopods and pereopods. Gnathopods smaller, but of similar structure to those of the male.

Holotype: SAM A13072, male, 5 mm.

Type-locality: SWD 51L, 26°37'S/15°07'E, 14 February 1963, depth 20 m, substrate fine muddy sand.

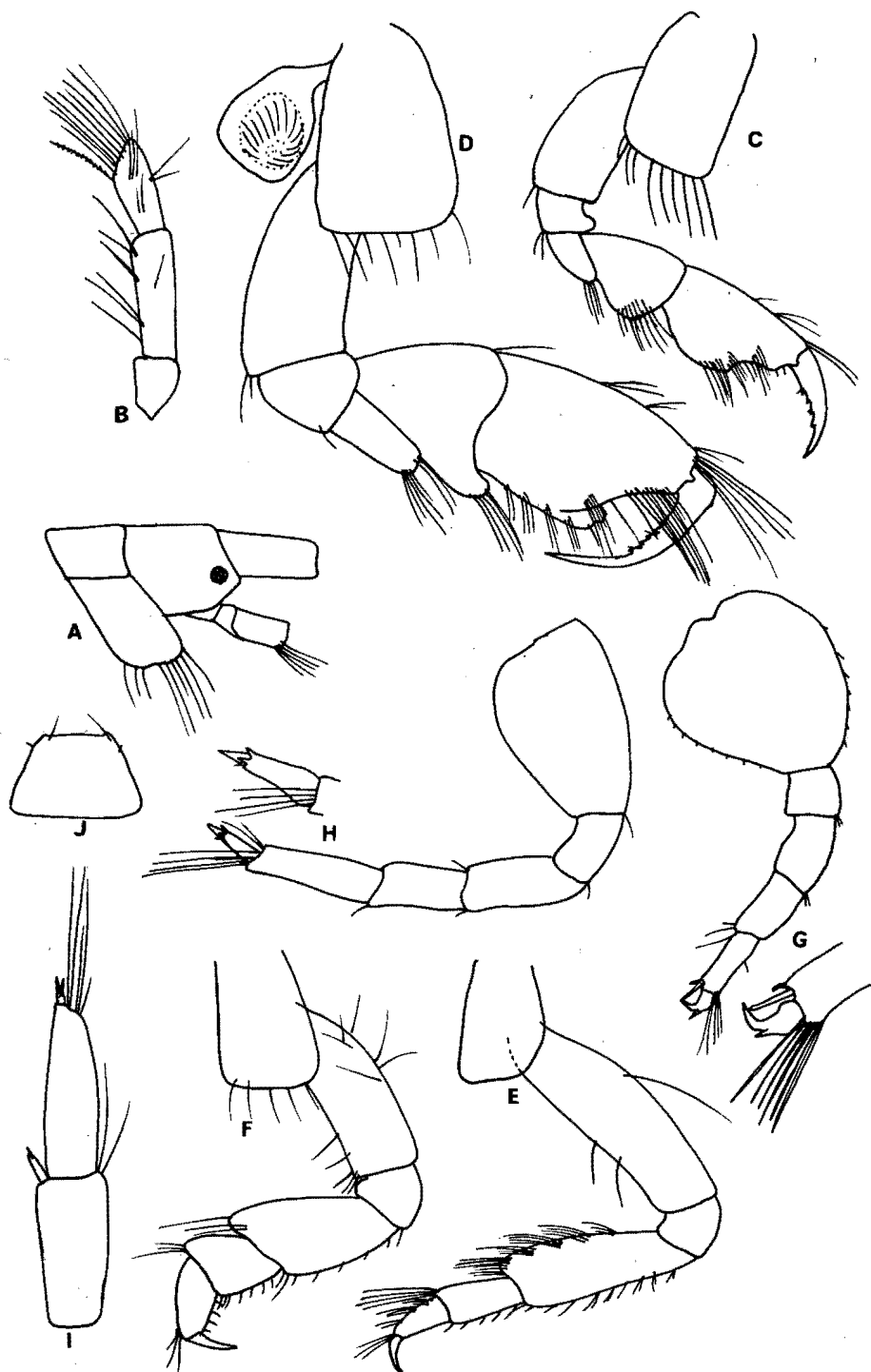


Fig. 6. *Photis longidactylus* n. sp., holotype, male, 5 mm:
 A. Head. B. Mandibular palp. C. Gnathopod 1. D. Gnathopod 2. E. Pereiopod 1. F. Pereiopod 2.
 G. Pereiopod 3 with tip of article 6 enlarged. H. Pereiopod 5 with tip enlarged. I. Uropod 3.
 J. Telson.

Remarks: Taxonomy of the genus *Photis* is complicated by the fact that males appear to pass through a series of developmental stages before attaining their terminal features. Despite the number of individuals which have been found, I have been unable to allocate these specimens to any known species. They bear some relationships to *P. africana* Schellenberg but have a longer dactyl to gnathopod 2 and lack a defining spine on gnathopod 1. Amongst southern African species they can be confused with *P. uncinata* Barnard, but lack the antero-distal process on article 2 of gnathopod 2 which characterizes that species.

Material: SWD 16P (1), SWD 18B (3), SWD 26D (39), SWD 40H (2), SWD 48S (1), SWD 51L (53), SWD 56T (3), SWD 58A (5).

Photis longimanus Walker, 1904

Photis longimanus: K. H. Barnard, 1916: 244. Sivaprakasam, 1970a: 567, fig. 8.

Records: SWD 30C (11), SWD 33C (12), SWD 36F (4), SWD 37M (21), SWD 51M (4), SWD 61D (21); Lüderitz (Schellenberg 1925).

Diagnosis: Gnathopod 2 ♂ with a large terminal rounded lobe on article 2 reaching to the tip of article 3; article 3 with a rounded lobe projecting horizontally inwards, palm very oblique, defined by a strong, elongate curved tooth, two other smaller teeth along the palmar margin.

Distribution: Southern Africa, India, Ceylon.

Remarks: The palmar teeth of these specimens are much more pronounced than those figured by Walker (1904) or Sivaprakasam (1970a). The defining tooth is strongly curved terminally and the other two teeth more elongate. The dactyl is shorter than the palm, whereas in Barnard's specimens it extended to the middle of the hind margin. These differences are probably growth changes—the present specimens of over 5 mm being larger than those of previous authors.

Family **Ischyroceridae**

Ischyrocerus anguipes Kröyer, 1838

Ischyrocerus anguipes: K. H. Barnard, 1916: 264. Schellenberg, 1953: 120, fig. 7a-c. J. L. Barnard, 1969: fig. 107b.

Records: SWD 21L; LU 52H (1); Lüderitz (Schellenberg 1953, Penrith & Kensley 1970).

Diagnosis: None of pereon segments dorsally carinate; article 2 of gnathopod 2 ♂ elongate, curved, anteriorly smooth; article 6 extremely large, elongate, palm almost parallel with convex anterior margin and bearing a broad denticulate tooth near finger hinge, dactyl smooth; rami of uropod 3 equal, the outer minutely hooked apically and bearing four or five small denticles on upper margin.

Distribution: Atlantic, Indo-Pacific.

Ischyrocerus carinatus K. H. Barnard, 1916

Ischyrocerus carinatus K. H. Barnard 1916: 266, pl. 28, fig. 18.

Records: Swakopmund (K. H. Barnard 1916).

Diagnosis: Pereon segments 1, 2, 6 and 7 each with a high mediodorsal carina; article 2 of gnathopod 2 ♂ remarkably elongate and slender, anterior margin proximally and distally serrate, article 6 of moderate size, narrow-oval, palm almost parallel with convex anterior margin and bearing a medial step and a distal bifid tooth, dactyl smooth; inner ramus of uropod 3 shorter than outer, outer ramus with an apical recurved spine and two minute dorsal denticles.

Distribution: Endemic, False Bay to South West Africa.

Ischyrocerus ctenophorus Schellenberg, 1953

Ischyrocerus ctenophorus Schellenberg, 1953: 121, fig. 7d-g.

Records: Lüderitz (Schellenberg 1953).

Diagnosis: None of pereon segments dorsally carinate; article 2 of gnathopod 2 ♀ (♂ unknown) elongate, anteriorly smooth, article 6 moderately elongate, palm oblique, defined by a narrow acute tooth, crenulate near finger hinge, dactyl with combs of setae on both faces; rami of uropod 3 equal, the outer almost as broad as long, bearing an apical spine and three large dorsal teeth.

Distribution: Endemic, the above record is unique.

Jassa falcata Montagu, 1808

Jassa falcata: Sexton & Reid, 1951: 30-47, pls 4-30. J. L. Barnard, 1969a: 155, figs 38-39.

Records: Swakopmund (K. H. Barnard 1916, Schellenberg 1925).

Diagnosis: Article 6 of gnathopod 2 ♂ elongate, hind margin ending in an enormous distally-directed acute process, palm bearing a stout tooth near finger hinge; rami of uropod 3 half length of peduncle, outer ramus bearing two dorsal flattened cusps and a large curved basally-immersed terminal spine; telson dorsally smooth.

Distribution: Cosmopolitan in shallow waters.

Jassa frequens (Chilton, 1883)

Jassa frequens: Schellenberg, 1953: 119, fig. 6.

Records: Lüderitz (Schellenberg 1953).

Diagnosis: Article 6 of gnathopod 2 ♂ oblong, hind margin ending in a square process distal to which the palm is deeply indented, palm otherwise smooth; rami of uropod 3 almost as long as peduncle, slender, nearly naked; telson with two or three sharp dorsal denticles.

Distribution: Chile, New Zealand, South West Africa.

Family **Leucothoidae***Leucothoe spinicarpa* (Abildgaard, 1789)

Leucothoe spinicarpa: K. H. Barnard, 1916: 148. Sivaprakasam 1967: 384, fig. 1.

Records: SWD 21E (6).

Distribution: Cosmopolitan.

Family **Liljeborgiidae***Listriella lindae* n sp.

Fig. 7

Description of male (8 mm): Lower anterior corner of head rounded and slightly produced, eyes oblique-oval, well developed, enclosed in a distinct capsule; antenna 1 extending to middle of article 4 of antenna 2, articles 1 and 2 of peduncle subequal, article 3 short, flagellum subequal to peduncle, 11-articulate; accessory flagellum 4-articulate, extending to article 3 of primary flagellum; antenna 2 as long as pereon, flagellum slightly shorter than peduncle, 15-articulate; article 1 of mandibular palp elongate but shorter than article 2 which is medially bent.

Palm of gnathopod 1 oblique, extremely convex, with a series of alternating small and large spines along its length, the longer spines with accessory cusps, hind margin separated from palm by an indistinct step; gnathopod 2 much larger than 1, palm defined by a single strong spine, finely setose throughout, a distinct step near finger-hinge (Fig. 7F); dactyl as long as palm, a distinct rugose hump on its inner margin opposite the palmar step; pereopods as in *L. goleta* J. L. Barnard.

Third pleonal epimeron upturned with a small notch at the postero-inferior corner; urosome segment 1 with a small dorsal tooth on its posterior margin, urosomite 2 with two such teeth; peduncle of uropod 1 with a large distal spine; rami of uropod 3 subequal, outer narrower than inner and with a small second article, four fascicles of spines along outer edge of basal article, inner margin of inner ramus proximally spinose, outer margin with a single row of small spines; seven strong spines around tip; telson with two large spines at apex of each lobe.

Colour (as preserved): Pereon and top of head uniform dark, otherwise white.

Holotype: SAM A13073, male, 8 mm.

Type-locality: SWD 40J, 26°36'S/15°06'E, 12 February 1963, depth 35 m, substrate fine sand.

Remarks: Gnathopod 2 of juveniles and females resembles gnathopod 1 in size and shape and has a more transverse, less convex palm than the adult male figured. Small specimens (3 mm) show a distinct dark brown band across article 3 of antenna 1 and article 4 of antenna 2 as well as various pereopod segments.

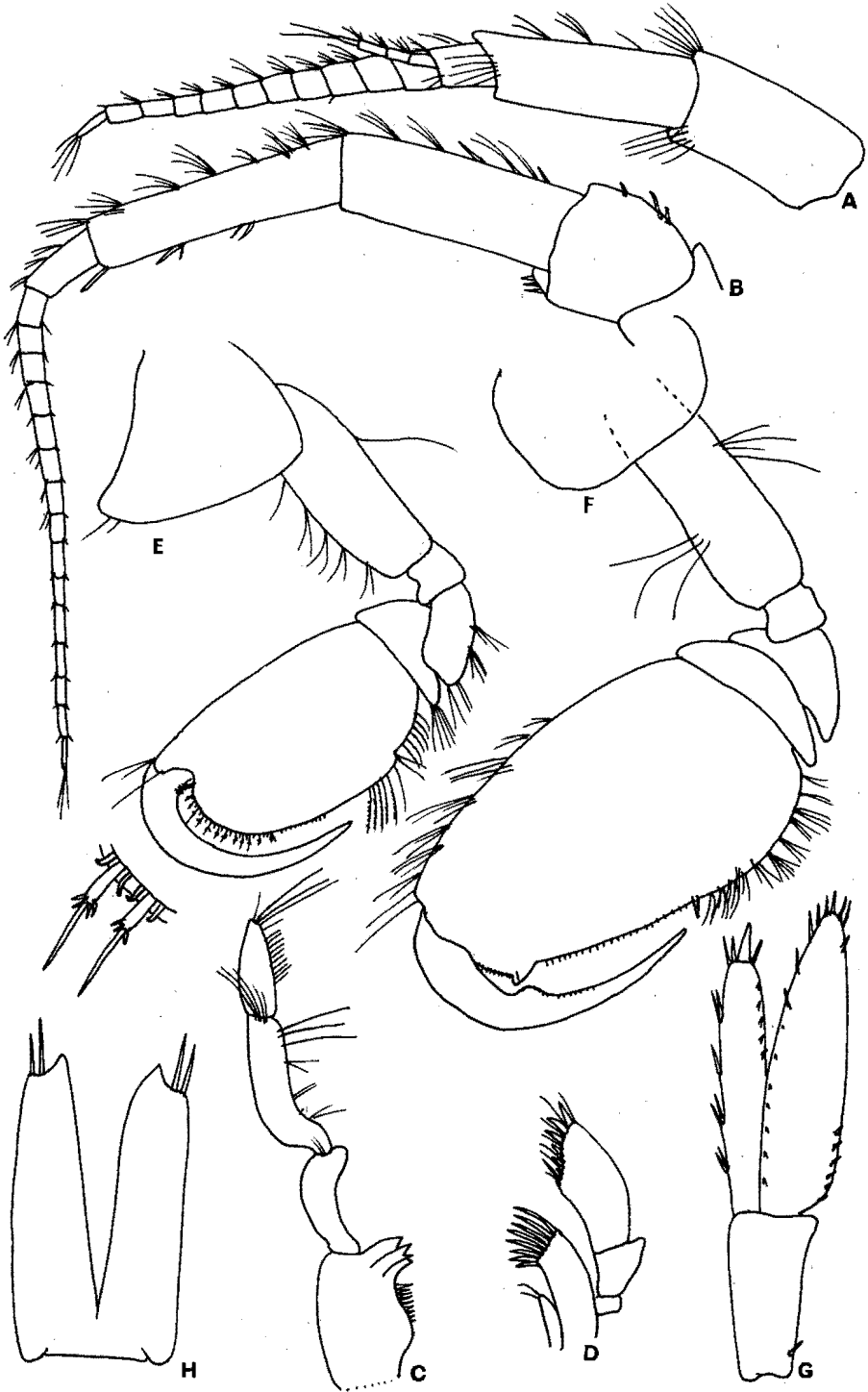


Fig. 7. *Listriella lindae* n. sp., holotype, male, 8 mm:
 A. Antennae 1. B. Antenna 2. C. Mandible. D. Maxilla 1. E. Gnathopod 1 with portion of palm enlarged. F. Gnathopod 2. G. Uropod 3. H. Telson.

This species can be distinguished from *L. albina* J. L. Barnard and *L. eriopisa* J. L. Barnard by virtue of its well-developed eyes. The very short article 2 of the outer ramus of uropod 3, the urosomal teeth and the oblique palm of gnathopod 2 male distinguish it from the other species of the genus. The closest known relative appears to be *L. goleta* J. L. Barnard but the spination of uropod 3 and form of gnathopod 2 are different.

Material: SWD 11N (3), SWD 16M (4), SWD 30A (9), SWD 33A (9), SWD 40J (2), SWD 41J (8), SWD 48T (1), SWD 49S (4), SWD 54J (3).

Family **Lysianassidae**

Amaryllis macrophthalma Haswell, 1880

Amaryllis macrophthalma: K. H. Barnard, 1916: 114.

Records: LU 56B (1), LU 99M (8), LU 101Y (2), LU 112V (1); SWA 2P (1).

Distribution: Indo-Pacific, extending to South West Africa.

Remarks: These specimens display a marked increase of the length of the flagellum of antenna 1 with size. A specimen of 4 mm had a 14-articulate flagellum, while one of 10 mm, had 26 articles to its flagellum.

Aristias symbiotica K. H. Barnard 1916

Aristias symbiotica K. H. Barnard, 1916: 122. Schellenberg, 1953: 111.

Records: Lüderitz (Schellenberg 1953).

Distribution: Endemic, Moçambique to South West Africa.

Cyphocaris challengerii Stebbing, 1888

Cyphocaris challengerii Stebbing, 1888: 661, pl. 17. Bowman & McCain 1967: 1-14, figs 1-9.

Records: 24°31'S 12°15'E (K. H. Barnard 1932).

Diagnosis: First pereon segment dorsally humped such that the top of the head faces forwards, the profile becoming lower and more rounded during development; hind margin of article 2 of pereopod 3 acutely produced to the tip of article 6, the process having 3-7 teeth on its upper surface, none on its lower; article 2 of pereopods 4 and 5 posteriorly cut into 14 and 13 strong teeth respectively; uropod 3 extending beyond the telson.

Distribution: Cosmopolitan, pelagic 25-200+ m.

Lysianassa ceratina (Walker, 1889)

Lysianassa cubensis: K. H. Barnard, 1916: 120.

Lysianassa ceratina: Chevreux & Fage, 1925: 42, fig. 23. Reid, 1951: 194.

Records: SWD 10B (1); LU 8C (1), LU 41B (1), LU 61Z (4), LU 86Z (1), LU 94C (4), LU 101Y (2), LU 103M (4), LU 112Q (2), LU 114Y (3), LU 121L (31); Lüderitz (Schellenberg 1925, Penrith & Kensley 1970).

Diagnosis: Article 1 of antenna 1 twice as long as wide, a flat lateral tooth on inner margin, accessory flagellum 5-articulate; eyes large, vertically elongate; third pleonal epimeron postero-distally rounded; inner ramus of uropod 2 strongly constricted; peduncle of uropod 3 strongly keeled, rami shorter than peduncle, subequal; telson oval, entire.

Distribution: Eastern Atlantic, Mediterranean, southern Indian Ocean.

Lysianassa minimus (Schellenberg, 1953)

Proannonyx minimus Schellenberg, 1953: 108, fig. 1.

Records: Lüderitz, Walvis Bay (Schellenberg 1953).

Diagnosis: Article 1 of antenna 1 twice as long as wide, without lateral tooth, accessory flagellum 2-articulate; eyes small, round; third pleonal epimeron postero-distally rounded-quadrate; inner ramus of uropod 2 simple; peduncle of uropod 3 with a plate-like distal expansion, outer ramus equal to peduncle, inner ramus shorter than outer; telson rounded, entire.

Distribution: Endemic, known only from the above records.

Lysianassa variegata (Stimpson, 1855)

Lysianassa variegata: Stebbing, 1888: 682, pl. 23.

Records: LU 61Z (1); Lüderitz (Penrith & Kensley 1970).

Diagnosis: Article 1 of antenna 1 twice as long as wide, without lateral tooth, accessory flagellum 4-articulate; eyes large, dark, vertically elongate; third pleonal epimeron postero-distally upturned with a small tooth; inner ramus of uropod 2 simple; peduncle of uropod 3 faintly keeled, rami shorter than peduncle, the outer slightly the longer; telson subquadrate, notched.

Distribution: Africa south of the equator.

Orchomene plicata (Schellenberg, 1925)

Orchomenopsis chilensis: Schellenberg, 1925: 119, fig. 3. K. H. Barnard, 1925: 330.

Orchomenella plicata: K. H. Barnard, 1940: 440.

Records: SWD 26K (24); Lüderitz (Schellenberg 1925).

Diagnosis: Eyes elongate oval, nearly meeting on top of head, third pleonal epimeron quadrate; telson twice as long as broad, $\frac{1}{2}$ cleft; article 1 of antenna 1 very stout, almost as broad as long and twice as long as articles 2 plus 3, flagellum 10-12 articulate, accessory flagellum 6-articulate; gnathopod 1 stout, article 2 twice as long as broad, article 5 very short with a narrow apical posterior lobe, palm transverse, cut into four or five little teeth; lower apex of article 5 of gnathopod 2 produced into an acute thumb, dactyl straight, closely fitting; article 4 of pereopods 3 and 4 strongly expanded posteriorly.

Distribution: Cosmopolitan.

Tryphosella normalis (K. H. Barnard, 1955)

Tryphosa normalis K. H. Barnard, 1955; 80, fig. 39.

Records: SWD 49V (1).

Diagnosis: Eyes absent; third pleonal epimeron postero-inferiorly bluntly quadrate; first urosomite with a rounded dorsal hump; palm of gnathopod 1 very oblique, almost as long as hind margin, defined by two slender spines; telson with two pairs of dorsal spines and a pair of small spines at apex of each lobe.

Distribution: Endemic, False Bay to Lüderitz.

Family **Ochlesidae***Ochlesis levetzowi* Schellenberg, 1953

Ochlesis levetzowi Schellenberg, 1953: 115, fig. 4. J. L. Barnard, 1969b: 372, fig. 134a.

Records: Lüderitz, Walvis Bay (Schellenberg 1953).

Diagnosis: Maxillipedal palp absent; pleon segments not posteriorly carinate; third pleonal epimeron postero-inferiorly quadrate, not upturned; peduncular articles of antenna 1 not ventrally produced.

Distribution: Endemic to South West Africa.

Family **Oedicerotidae***Periocolodes longimanus* (Bate & Westwood, 1868)

Periocolodes longimanus: Chevreux & Fage, 1925: 162, figs 162-3. Ledoyer, 1967: 127, fig. 7.

Records: SWD 16L (100), SWD 18E (3), SWD 26A (195), SWD 27J (12), SWD 30D (2), SWD 33D (2), SWD 36D (5), SWD 37R (6), SWD 40K (8), SWD 41G (15), SWD 46H (1), SWD 49U (1), SWD 51G (125), SWD 56R (1), SWD 62D (22), SWD 72L (1).

Distribution: Mediterranean, Atlantic and Indian Oceans.

Family **Phliantidae***Temnophilias capensis* K. H. Barnard, 1916

Temnophilias capensis K. H. Barnard, 1916: 158, pl. 26, figs 25-35.

Records: LU 53M (3).

Diagnosis: Pereon smooth, coxae subrectangular; pleon segment 2 ♂ with a pair of anterior submedian tubercles, a second pair near the posterior margin, posterior margin of segment ventrally produced backwards as a rounded lobe overhanging segment 3; pereopods 1-3 of ♂ chelate, 4 and 5 simple.

Distribution: Endemic, Still Bay to South West Africa.

Family **Podoceridae***Laetmatophilus purus* Stebbing, 1888

Laetmatophilus purus Stebbing, 1888: 1198, pl. 132. K. H. Barnard, 1916: 274.

Records: SWD 21S (500), SWD 39P (16).

Podocerus africanus K. H. Barnard, 1916

Podocerus africanus K. H. Barnard, 1916: 278, pl. 28, figs 24-25; 1925: 367; 1937: 176, fig. 19.

Records: LU 52G (1).

Diagnosis: Body not carinate, article 4 of gnathopod 2 ♂ strongly and acutely produced, palm with a short area of plumose setae distally and two strong teeth near the hinge; antero-distal margin of article 2 of pereopods 1 and 2 lobed; article 2 of pereopods 3-5 widest at base and tapering distally.

Distribution: South Arabian coast, Natal to South West Africa.

Podocerus cristatus (Thompson, 1879)

Podocerus cristatus: K. H. Barnard, 1916: 276. J. L. Barnard, 1962: 67, fig. 31.

Records: Swakopmund (Schellenberg 1925).

Distribution: Cosmopolitan in tropical and warm temperate seas.

Family **Stenothoidae***Stenothoe valida* Dana, 1853

Stenothoe affinis: K. H. Barnard, 1925: 345.

Stenothoe valida: Ledoyer, 1967: 125, fig. 4b. Sivaprakasam, 1967: 373, fig. 2a-b.

Records: LU 112V (1).

Distribution: Cosmopolitan in tropical and temperate seas.

Superfamily TALITROIDEA

Family **Hyalidae***Allorchestes inquirendus* K. H. Barnard, 1940

Allorchestes inquirendus K. H. Barnard, 1940: 477, fig. 34b-c.

Records: LU 8B (1), LU 55A (1), LU 105C (2), LU 106D (4), LU 107A (1), LU 108B (1), LU 112P (10) 114X (7); SWA 4J (2).

Diagnosis: Article 5 of gnathopod 2 ♂ lobed, the lobe extending between articles 4 and 5; palm oblique, defined by a pocket-like cavity and two spines, hind margin quite long.

Distribution: Endemic, Port Elizabeth to South West Africa.

Hyale diastoma K. H. Barnard, 1916

Hyale diastoma K. H. Barnard, 1916: 232, pl. 28, fig. 8.

Records: LU 52F (1), LU 56C (3), LU 57H (1), LU 61W (4), LU 99L (1), LU 103L (4), LU 112V (13); Lüderitz (Penrith & Kensley 1970).

Diagnosis: Antenna 1 extending to centre of flagellum of antenna 2, articles 1 and 2 not distally lobed; coxae 1-4 with triangular process at centre of hind margins; article 2 of gnathopod 2 ♂ with large anterior lobe, article 3 not lobed, palm nearly transverse, sinuous, defined by two spines, dactyl stout, inner margin sinuous; article 2 of pereopod 5 subcircular, bearing a few posterior setiferous indents.

Distribution: Endemic, False Bay to South West Africa.

Hyale grandicornis Kröyer, 1845

Hyale grandicornis: K. H. Barnard, 1916: 230. Stephensen, 1949: 33, figs 14-15. K. H. Barnard, 1955: 93, fig. 46.

Records: LU 33T; Lüderitz (Penrith & Kensley 1970).

Distribution: Indo-Pacific, southern Atlantic.

Hyale hirtipalma (Dana, 1852)

Hyale hirtipalma: K. H. Barnard, 1916: 234. Stephensen, 1949: 30, fig. 13.

Records: LU 52H (4), LU 54E (1), LU 57H (1), LU 86Y (5), LU 101W (1), LU 106C (1), LU 112N (7); SWA 2N (1); Lüderitz (Penrith & Kensley 1970).

Diagnosis: Antenna 1 extending $\frac{1}{3}$ way along flagellum of antenna 2, articles 1 and 2 not distally lobed; coxae 1-4 with triangular process at centre of hind margin; article 2 of gnathopod 2 ♂ with a large anterior lobe, article 3 not lobed, palm very oblique, strongly setose, defined by two spines, dactyl evenly tapering; article 2 of pereopod 5 oval, posteriorly faintly crenulate.

Distribution: Pacific, South Atlantic.

Hyale macrodactyla Stebbing, 1899

Hyale macrodactyla: K. H. Barnard, 1916: 235. Sivaprakasam, 1969: 308.

Records: LU 52H (12), LU 54C (26), LU 61Y (15), LU 101V (5), LU 103J (14), LU 112M (22).

Diagnosis: Antenna 1 extending $\frac{1}{3}$ way along flagellum of antenna 2, articles 1 and 2 not distally lobed; coxae 1-4 posteriorly smooth; articles 2 and 3 of gnathopod 2 ♂ anteriorly lobed, palm very oblique, bordered on both sides by rows of slender spinules, defined by two spines in a pocket, dactyl widest medially, reaching end of article 4; article 2 of pereopod 5 circular, posteriorly serrate.

Distribution: India, southern Atlantic.

Hyale saldanha Chilton, 1912

Hyale saldanha Chilton, 1912: 509, pl. 2, figs 24-29. K. H. Barnard, 1916: 229, pl. 27, fig. 37.

Records: LU 33S (1), LU 52E (6), LU 54D (6), LU 61X (12), LU 82Q (1), LU 99K (5), LU 101X (4), LU 103H (13), LU 105B (1), LU 112 L (10); SWA 1P (6); Lüderitz (Schellenberg 1925, Penrith & Kensley 1970).

Diagnosis: Antenna 1 extending $\frac{1}{3}$ way along flagellum of antenna 2, articles 1 and 2 distally lobed; coxae 1-4 posteriorly smooth; articles 2 and 3 of gnathopod 2 ♂ anteriorly lobed, palm oblique, straight except for a small lobe near the hinge, defined by two spines in a pocket; dactyl evenly tapering, equal to palm; article 2 of pereopod 5 circular, smooth.

Distribution: Endemic, East London to South West Africa.

Orchestia rectipalma (K. H. Barnard, 1940)

Parorchestia rectipalma K. H. Barnard, 1940: 473, fig. 32.

Records: LU 34F (15), LU 36B (7).

Diagnosis: Scabrous lobes on articles 4 to 6 of gnathopod 1 ♂, article 6 of gnathopod 2 ♂ widest at defining angle, palm straight, separated from the hind margin by a distinct step carrying a short strong spine, dactyl evenly convex, fractionally longer than palm; article 2 of pereopod 5 with very faint setiferous serrations posteriorly.

Distribution: Endemic, Natal to South West Africa.

Talorchestia australis K. H. Barnard, 1916

Talorchestia australis K. H. Barnard, 1916: 220, pl. 27, figs 33-34; 1940: 470, fig. 30.

Records: Lüderitz (Penrith & Kensley 1970).

Distribution: Moçambique to South West Africa.

Talorchestia quadrispinosa K. H. Barnard, 1916

Talorchestia quadrispinosa K. H. Barnard, 1916: 217, pl. 27, figs 29-32.

Records: LU 8A (1), LU 64C (5), LU 66A (1); OR 2 (fairly common); Walvis Bay, Prince of Wales Bay (Schellenberg 1925); Lüderitz (Penrith & Kensley 1970).

Diagnosis: Eyes separated dorsally by less than their diameter; coxa 2 not lobed; pleon segments 1 and 2 (and sometimes 3) each with 2 medio-dorsal tubercles in adult ♂; article 4 of gnathopod 1 ♂ not lobed, article 5 distally lobed, article 6 shorter than 5, not widening much distally; palm of gnathopod 2 ♂ distally concave, a strong triangular tooth near the hinge, defined by a tubercle from short hind margin; dactyl as long as palm or extending well beyond it, slightly emarginate proximally.

Distribution: Endemic, False Bay to South West Africa.

Suborder CAPRELLIDEA

Family Caprellidae

Caprella danilevskii Czerniavski, 1868

Caprella danilevskii: Chevreux & Fage, 1925: 454, fig. 432. McCain, 1968: 22-25, figs 10-11.

Records: Swakopmund (K. H. Barnard 1916).

Diagnosis: Head elongate, anteriorly rounded-quadrate; article 2 of gnathopod 2 shorter than pereon segment 2, article 6 elongate, palm oblique, equal to hind margin, bearing a distal rectangular tooth and defined by a poison tooth, dactyl shorter than palm; gills elliptical, long axis usually parallel to body, pereopods 3-5 lacking grasping spines.

Distribution: Widespread, pan-tropical.

Caprella equilibra Say, 1818

Caprella equilibra: McCain, 1968: 25-30, figs 12-13.

Records: SWD 21R (37), SWD 26F (1), SWD 27H (3), SWD 39R (38); Swakopmund (K. H. Barnard 1916).

Distribution: Cosmopolitan 0-300 m.

Caprella penantis Leach, 1814

Caprella penantis: McCain, 1968: 33-40, figs 15-16.

Records: Lüderitz (Penrith & Kensley 1970).

Diagnosis: Head short, bearing a large triangular antero-dorsal process; article 2 of gnathopod 2 shorter than pereon segment 2, palm occupying almost whole length of hand, bearing a rectangular projection near hinge and defined by a poison tooth, dactyl equal to palm; gills subcircular, pereopods 3-5 each with a pair of grasping spines.

Distribution: Cosmopolitan in tropical and temperate seas.

Caprella scaura Templeton, 1836

Caprella scaura: K. H. Barnard, 1925: 371. McCain, 1968: 40-44, figs 17-18.

Records: LU 113N (1).

Distribution: Cosmopolitan.

Family Phtisicidae

Phtisica marina Slabber, 1769

Phtisica marina: K. H. Barnard, 1916: 283. McCain, 1968: 91-97, figs 46-47.

Records: SWD 21Q (12), SWD 26E (3), SWD 39Q (1), LU 121M (1).

Distribution: Atlantic, Black Sea, Mediterranean, east coast of southern Africa.

Caprellina longicollis (Nicolet, 1849)

Caprellina longicollis: McCain, 1969: 289, fig. 2.

Records: Lüderitz (Penrith & Kensley 1970).

Diagnosis: Body dorsally smooth, a pair of antero-lateral projections on pereon segments 2 and 3; palm of gnathopod 2 ♂ half as long as hand, cup-shaped distally; pereopods 1 and 2 absent, pereopod 3 three or four-segmented.

Distribution: Southern oceans, Mediterranean.

Caprellina spiniger K. H. Barnard, 1916

Caprellina spiniger K. H. Barnard, 1916: 282, pl. 28, fig. 35; 1955: 99.

Records: Lüderitz (Penrith & Kensley 1970).

Diagnosis: Pereon segment 3 bearing a forward-directed longitudinally-bifid dorsal tubercle, segments 2 and 4 sometimes with similar but smaller tubercles; a pair of antero-lateral spines on pereon segment 2 above insertion of gnathopod 2; gnathopod 2 as in *C. longicollis*; pereopods 1 and 2 absent, pereopod 3 of 3 segments.

Distribution: Endemic, False Bay to Lüderitz.

SUMMARY

The records of the University of Cape Town Ecological Survey have been incorporated with the findings of previous workers in listing the known gamma-ridean and caprellid amphipod fauna of South West Africa south of 20°S.

Eighty-one species are recognized in all. Of these five are presented here as new to science, namely *Guernea rhomba* n. sp., *Eriopisa epistomata* n. sp., *Eriopisella epimera* n. sp., *Photis longidactylus* n. sp. and *Listriella lindae* n. sp. A further 26 species are recorded from South West Africa for the first time. References and synonyms are given for all the species and short diagnoses for those not described in Part I of this series.

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C. L. Griffiths

THE AMPHIPODA OF SOUTHERN AFRICA
PART 2
THE GAMMARIDAE AND CAPRELLIDAE OF
SOUTH WEST AFRICA SOUTH OF 20°S

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OF NATAL

By
C. L. GRIFFITHS

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PART 3

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By

C. L. GRIFFITHS

C.S.I.R. Oceanographic Research Unit, University of Cape Town

(With 8 figures)

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CONTENTS

	PAGE
Introduction	209
The collecting stations	210
Systematics	219
Gammaridea	220
Caprellidea	254
Summary	261
Acknowledgments	261
References	261

INTRODUCTION

The aim of this third paper in the series on the benthic Amphipoda of southern Africa is to bring together existing information concerning the marine gammaridean and caprellid amphipod fauna of Natal. The main body of data has been drawn from the collections of the University of Cape Town Ecological Survey and of the National Institute for Water Research of the South African Council for Scientific and Industrial Research. To these have been added the records of previous workers in the area, notably T. R. R. Stebbing (1918), K. H. Barnard (1916, 1925, 1940) and J. L. Barnard (1961).

A considerable number of estuaries are situated along the Natal coast and these have been the subject of much of the collecting effort in the area. As a result the estuarine fauna is well known while the marine environment has been less thoroughly sampled. Collecting in deeper waters has been particularly neglected, indeed the area between 200 and 1 000 m remains virtually untouched and there can be little doubt that many new species await discovery there.

The Natal seaboard is of a subtropical type, being warmed by the southerly flowing Agulhas current. The continental shelf is narrow, except in the stretch between Richard's Bay and Durban, and hence the current flows close inshore and has a profound effect upon the littoral fauna. The mean sea temperature is in fact maintained at a level some 10°C higher than found at the same latitude on the west coast, the normal range being between about 25°C in summer and 19°C in winter.

The collecting areas of the University of Cape Town and National Institute for Water Research (NIWR) are described briefly below and shown on Figure 1.

THE COLLECTING STATIONS

The various collections incorporated into this survey are best considered as falling into two groups—those from estuaries and brack-water lakes, and those from the open sea. Each of these categories is further divided according to the source of the samples.

Samples from the open sea

(a) Collections of the National Institute for Water Research (NIWR)

This series of some 50 benthic samples was collected by the R.V. *Meiring Naudé* on behalf of the National Institute for Water Research of the South African Council for Scientific and Industrial Research. Amphipods were recovered from 36 of these samples and kindly loaned to the author for identification. Examination of the samples revealed 47 recognizable species including four new to science and two others (*Ampelisca miops* and *Metaprotella macrodactylos*) previously known only from the holotype. Most of the samples were dominated by burrowing species, the most common being *Mandibulophoxus stimpsoni*, which was present in 22 of the samples. Other prominent species were *Byblis gaimardi*, *Microdeutopus thubellinus* n. sp., *Ampelisca diadema* and *Unciolella spinosa* n. sp.

Station data for samples containing amphipods are provided below. The samples were collected on three separate cruises and this is reflected in the catalogue numbers which are coded: NIWR/cruise/station number, the cruises being referred to as 1 and 2 and 'Umlass' (UM). Thus, station NIWR/1/3 is the third sample from cruise 1.

N.I.W.R. station data

<i>Catalogue no.</i>	<i>Date</i>	<i>Location</i>	<i>Depth (m)</i>
NIWR/1/3	15/5/72	$28^{\circ}36'S/32^{\circ}26'E$	55
NIWR/1/5	15/5/72	$28^{\circ}48'S/32^{\circ}11'E$	32
NIWR/1/6	15/5/72	$28^{\circ}48'S/32^{\circ}11'E$	50
NIWR/1/9	15/5/72	$28^{\circ}56'S/32^{\circ}01'E$	22

Catalogue no.	Date	Location	Depth (m)
NIWR/1/13	15/5/72	29°34'S/31°17'E	48
NIWR/1/14	15/5/72	29°34'S/31°17'E	53
NIWR/1/15	15/5/72	29°34'S/31°17'E	60
NIWR/1/24	15/5/72	30°21'S/30°52'E	52
NIWR/1/26	15/5/72	30°36'S/30°37'E	52
NIWR/1/27	15/5/72	30°37'S/30°40'E	58
NIWR/2/17	19/7/72	30°03'S/30°58'E	52
NIWR/2/18	19/7/72	30°04'S/30°01'E	155
NIWR/2/19	19/7/72	30°13'S/30°49'E	19
NIWR/2/20	19/7/72	30°14'S/30°52'E	44
NIWR/2/21	19/7/72	30°15'S/30°55'E	148
NIWR/2/22	19/7/72	30°19'S/30°45'E	23
NIWR/2/23	19/7/72	30°20'S/30°48'E	60
NIWR/2/24	19/7/72	30°21'S/30°52'E	102
NIWR/2/25	19/7/72	30°35'S/30°35'E	38
NIWR/2/27	19/7/72	30°37'S/30°40'E	71
NIWR/2/28	19/7/72	30°45'S/30°29'E	32
NIWR/2/29	19/7/72	30°46'S/30°31'E	49
NIWR/2/30	19/7/72	30°47'S/30°33'E	56
NIWR/2/31	19/7/72	30°53'S/30°23'E	32
NIWR/2/32	19/7/72	30°53'S/30°26'E	50
NIWR/2/33	19/7/72	30°54'S/30°29'E	86
NIWR/2/35	19/7/72	31°04'S/30°17'E	42
NIWR/2/36	19/7/72	31°05'S/30°19'E	72
NIWR/UM/P ₅	15/9/70	29°59'S/31°03'E	60
NIWR/UM/O ₃	15/9/70	29°59'S/31°03'E	51
NIWR/UM/R ₃	15/9/70	29°59'S/31°03'E	55
NIWR/UM/P ₁	15/9/70	29°59'S/31°03'E	25
NIWR/UM/M ₄	15/9/70	29°59'S/31°03'E	55
NIWR/UM/M ₁	3/11/72	29°59'S/31°03'E	30
NIWR/UM/M ₂	3/11/72	29°59'S/31°03'E	40
NIWR/UM/M ₃	3/11/72	29°59'S/31°03'E	50

(b) *Natal dredge (NAD)*

Benthic samples from Natal in the collections of the University of Cape Town are denoted by this code. To date there are 93 samples in the series, ranging from 18 to 200 m in depth. Only 24 of the samples include amphipods, a total of 39 species being recorded. Although this is a considerable number of species it is notable that 32 of them were recorded only in one sample and that the total number of individuals is small. This, coupled with the fact that species most common in the NIWR series (above) are generally poorly represented or absent in the NAD samples, indicates that a large number of benthic species are still to be found in the area.

Tube-building forms such as *Ampelisca brevicornis*, *A. spinimana*, *A. anisuropha* and *Photis kapapa* dominated sandy and muddy samples in the series, while *Eusiroides monoculodes* was common in rocky areas. The two best represented species in the series, *Gammaropsis atlantica* and *Melita appendiculata* occurred in both hard and soft substrate areas.

Station data for those samples in which amphipods were represented are given below.

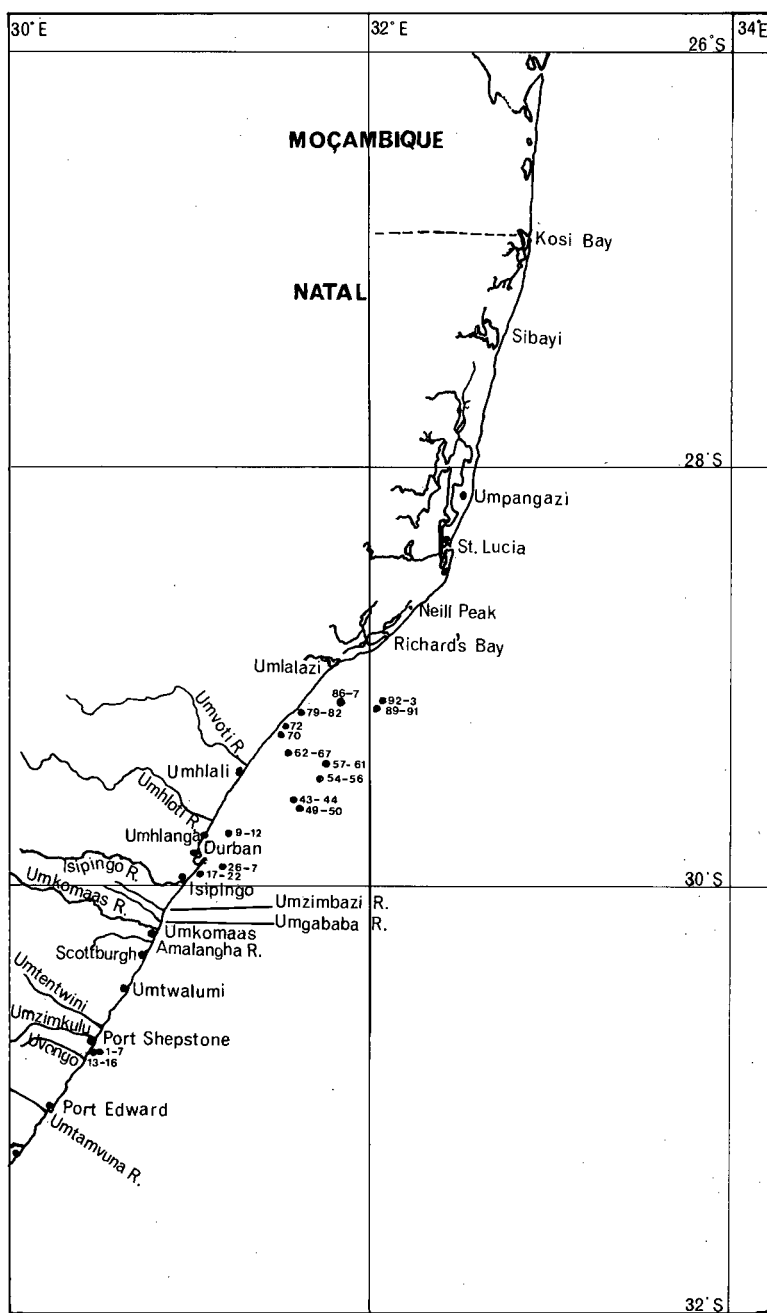


Fig. 1. Collecting stations along the Natal coast. Numbers represent NAD stations.

NAD station data					
Catalogue no.	Date	Location	Depth (m)	Substrate	Gear
NAD 4	17/5/58	30°47'S/30°29'E	44	Stones	—
NAD 7	17/5/58	30°47'S/30°29'E	44	Stones	—
NAD 11	23/4/58	29°46'S/31°17'E	110	Stones	—
NAD 12	23/4/58	29°46'S/31°17'E	110	—	—
NAD 15	13/8/58	30°47'S/30°27'E	36	—	—
NAD 16	13/8/58	30°47'S/30°27'E	36	—	—
NAD 19	12/8/58	29°58'S/31°02'E	49	—	—
NAD 27	13/7/59	29°53'S/31°06'E	71	Mud	Dredge
NAD 39	9/9/64	29°35'S/31°38'E	150	Sandy mud	Grab
NAD 43	9/9/64	29°34'S/31°39'E	115	Sandy mud	Grab
NAD 49	9/9/64	29°35'S/31°42'E	138	Coral, gravel	Grab
NAD 56	9/9/64	29°29'S/31°45'E	86	Mud	Grab
NAD 57	9/9/64	29°26'S/31°46'E	77	Mud	Dredge
NAD 61	9/9/64	29°26'S/31°46'E	77	Mud	Grab
NAD 64	9/9/64	29°21'S/31°36'E	57	Shelly sand	Dredge
NAD 66	9/9/64	29°21'S/31°36'E	57	Shelly sand	Grab
NAD 70	9/9/64	29°18'S/31°33'E	47	Mud	Grab
NAD 72	10/9/64	29°16'S/31°32'E	35	Mud	Grab
NAD 81	29/7/64	29°11'S/31°37'E	18	Rock	Dredge
NAD 86	29/7/64	29°10'S/31°51'E	43	Sand	Trawl
NAD 90	30/7/64	29°11'S/32°02'E	70	Rock shell	Dredge
NAD 92	30/7/64	29°10'S/32°05'E	170	Rock, sand	Grab

(c) *Shore stations*

Early shore collections made by the University of Cape Town are denoted by single letter codes. Five stations in this series fall into our area: Umpangazi (G), Umhlati (U), Durban (D), Umtwalumi (M) and Port Edward (W). The records are purely of a presence-absence type, no data on abundance having been kept. Of the 13 species recorded, *Hyale grandicornis* and *Elasmopus pecteniscus* appear to be the best distributed.

More recently shore samples have been lumped together under a single code (NA). Only five NA samples include amphipods, 17 species being found in all. The fact that the last of these samples added eight species to the list gives some indication of the inadequacy of the sampling coverage to date. The position at present indicates that the most common rocky intertidal species are *Maera inaequipes*, *Caprella penantis*, *Podocerus africanus*, *Jassa falcata* and *Hyale grandicornis*.

NA station data		
Catalogue no.	Date	Location
NA 189	13/7/56	Port St. Johns, general collection
NA 191	13/7/56	Port St. Johns, general collection
NA 205	13/7/56	Port St. Johns, general collection
NA 243	25/7/72	Umhlanga, general collection from weeds
NA 244	27/7/72	Scottburgh, general collection from weeds

(d) *Anton Bruun dredge* (ABD)

A small collection of dredge samples collected by the S.S. *Anton Bruun* during 1964 is allocated to this code. Very few of the stations fall into the area

under consideration here, and from these only one amphipod, *Monolopopus falcimanus* Mayer, is recorded.

ABD station data

<i>Catalogue no.</i>	<i>Date</i>	<i>Location</i>	<i>Depth</i>
ABD 14	8/9/64	29°45'S/31°40'E	440 m

Samples from estuarine areas

(a) *Kosi Bay (KOS)*

A preliminary survey of Kosi Bay has been conducted by Broekhuysen & Taylor (1959), while details of the benthos of Nhlangwe and Sifungwe Lakes have been investigated by Bolt (1969b). The system is composed of a series of lakes running from south-west to north-east and opening to the sea just south of the Mozambique border. Two rivers flow into the uppermost and largest lake, Lake Nhlangwe, and this is joined to the smaller Sifungo and Mponowini Lakes by a narrow winding channel. These in turn communicate with a tidal basin into which two further rivers discharge and which is connected to the sea by a short straight channel about 20 m wide.

At the time of Broekhuysen & Taylor's (1959) original survey the water in the system was exceptionally clear. Salinity in the tidal basin varied between 10 and 16‰ compared with 6–8‰ in Mponowini and Sifungo and 3‰ in Nhlangwe, while water temperatures fell between 20 and 24°C. Full details of physical and biological features of the lakes at the time of sampling may be found in Broekhuysen & Taylor (1959).

In 1966 the Kosi system was flooded during a cyclone which raised the water level some 2 m before the sandbar at the mouth opened. This inundation caused a considerable accumulation and subsequent decay of organic matter in Lake Nhlangwe and several years passed before the water cleared fully. Details of the recovery of the lakes after these floods may be found in Bolt (1969b).

Four species of amphipod were recorded in the system by Broekhuysen & Taylor (1959) and to these Bolt (1966) has added two further benthic species. Of the six species *Urothoe serrulidactylus* is found only in the sandy shallows of Lake Sifungo. *Afrochiltonia capensis* and *Melita zeylanica* are distributed throughout the upper reaches of the system, while *Orchestia ancheidos* is common along the driftline. The benthos of the lakes is dominated by *Grandidierella bennieri* and *Corophium triaenonyx*. These two species have increased greatly in both density and range as conditions have improved following the floods of 1966, reaching a density of over 1 000 m/sq. in places by 1969.

Kosi Bay station data

<i>Catalogue no.</i>	<i>Date</i>	<i>Location</i>
KOS 6	18/4/48	Nhlangwe Lake, shore
KOS 15	12/7/49	Shore of tidal basin
KOS 53	15/7/49	Northern tip of Nhlangwe Lake

Catalogue no.	Date	Location
KOS 52	16/7/49	Between tidal basin and Mpunowini Lake
KOS 69	17/7/49	Between tidal basin and Mpunowini Lake
KOS 74	17/7/49	Shore of Mpunowini Lake
KOS 78	18/7/49	Shore of Mpunowini Lake
KOS 81	18/7/49	Shore of Sifungo Lake
KOS 82	18/7/49	Shore of Sifungo Lake
KOS 83	19/7/49	Shore of Sifungo Lake

(b) *St. Lucia* (STL)

The main body of the *St. Lucia* system is a saline lake shaped like the letter H and about 18 km wide by 40 km long, the western limb being known as False Bay, the crosspiece as Hell's Gates and the eastern limb as Lake *St. Lucia* proper. The eastern limb of the lake is further subdivided into the North Lake from which elongate shallow South Lake is almost completely separated by an island known as Fanie's Island. On the western shore of the South Lake lies the settlement of Charter's Creek and from its southern tip winds a long narrow channel some 15 km long and seldom more than 2 m deep. Some 2 km from the mouth of this channel lies the village of *St. Lucia*, reached by a bridge across the channel. At the time of sampling the large Umfolosi River flowed into the system just before its junction with the sea but the river mouth has since been diverted south.

Several rivers flow into the main lake, notably the Hluhluwe, flowing into False Bay and the Mkuze, which enters North Lake. Variations in rainfall and evaporation cause wild fluctuations of depth, salinity and substrate in the system. However, the bottom is chiefly muddy and the depth of the lake averages 1 m or less. Salinity is generally higher than that of the sea but falls violently when the system is flushed by heavy rains. Considerable water turbidity is normal while temperatures generally fall between 20° and 30°C.

Two surveys of the lake system have been undertaken by the University of Cape Town resulting in the publications of Day, Millard & Broekhuysen (1953) and Millard & Broekhuysen (1965). Detailed descriptions of the physical and biological conditions at the times of sampling (1948-51 and 1964-5 respectively) are provided therein. It should be emphasized, however, that conditions in the lakes have changed considerably since the collections reported upon were taken. As well as the diversion of the Umfolosi River, the channel has been dredged to facilitate water movement and faunal migration, and the mouth has been stabilised by breakwaters. Despite these efforts to improve conditions, salinity in the system in recent years has risen at times to well in excess of 100‰. This has undoubtedly affected the fauna but the nature of such effects will only be determined by further sampling.

At the time of sampling eight species of amphipod were found. *Afrochiltonia capensis* and *Orchestia rectipalma* were common in areas of low salinity where rivers enter the system, while *Grandidierella bonnieri* and *Melita zeylanica* appeared tolerant of conditions of salinity from 0-50‰ and more. *Orchestia ancheidos* was found along the driftline throughout the system. Also recorded were

Corophium triaenonyx, found locally throughout the lakes, *Ampelisca anisuropha* from South Lake and *Eriopisa chilkenis* from mangroves near the mouth.

St. Lucia station data

<i>Catalogue no.</i>	<i>Date</i>	<i>Location</i>
STL 11	4/7/48	Stony shore, Charters Creek
STL 18	4/7/48	Amongst <i>Zostera</i> , Charters Creek
STL 52	9/7/48	Mouth of estuary, shore collection
STL 67	12/7/48	Drift line near Charters Creek
STL 73	12/7/48	Decaying <i>Zostera</i> near Charters Creek
STL 77	15/7/48	Black mud, shore near Charters Creek
STL 89	19/7/48	River mouth, False Bay
STL 101	3/7/48	Near Charters Creek, plankton haul
STL 102	19/7/48	Hluhluwe River
STL 135	6/7/49	Amongst <i>Zostera</i> , Charters Creek
STL 148	8/7/49	Sandy shore, Charters Creek
STL 171	11/7/49	Sandy beach, mouth of estuary
STL 178	19/7/49	Sandy stones, False Bay
STL 188	20/7/49	Plankton haul, False Bay
STL 193	7/2/49	Mangrove swamps near mouth
STL 204	21/1/51	Stomach of fish, Charters Creek
STL 223	20/1/51	Stomach of fish, Charters Creek
STL 232	3/7/64	Seine netting, opposite Charters Creek
STL 243	1/7/64	River mouth, channel
STL 251	24/6/64	South Lake
STL 252	24/6/64	South Lake
STL 270	5/7/64	Rocky shore, South Lake
STL 274	26/6/64	Mangrove swamps above bridge
STL 296	10/1/65	Seine netting above bridge
STL 299	11/1/65	Shore collection, channel
STL 304	12/1/65	Shore collection, channel
STL 309	14/1/65	Seine, North Lake
STL 312	15/1/65	Seine, northern False Bay
STL 317	16/1/65	Shore collections, southern False Bay
STL 318	16/1/65	Shore collection, western False Bay
STL 337	23/1/65	Shore collection, North Lake
STL 339	24/1/65	Charters Creek, seine
STL 342	25/1/65	Shore stations, South Lake
STL 343	25/1/65	Charters Creek
STL 344	25/1/65	Charters Creek

(c) *Richard's Bay* (RHB)

Full details of the physical and biotic features of the area are to be found in Millard & Harrison (1954), but a brief summary is given here for the sake of convenience. Richard's Bay is a subtropical estuary situated 28°48'S/32°05'E. The estuary receives several sizeable rivers and is about 40 sq. km in area, consisting of a large triangular shallow lake opening to the sea through a narrow mouth. The body of the lake averages about 1 m depth but has a deeper perimeter. The bottom is mostly soft mud with a good growth of *Zostera* and the banks are generally marshy with occasional areas of mangrove. The channel flows from the north-east corner of the lake, its bottom changing from mud to sand as it approaches the sea. An hotel is situated on the north bank of the channel, while in its centre there is a small island known as Pelican Island.

In parts the channel may be 5 m deep.

Salinity in the main lake usually lies between 18–24‰, varying according to season. Near the river mouths the salinity decreases to zero, while it increases to that of sea water along the length of the channel.

A series of sampling expeditions to the lake between 1948 and 1951 by teams from the University of Cape Town revealed seven species of amphipod. *Grandidierella bonnieri* was abundant amongst the rich fauna of the *Zostera* beds, *Gitanopsis pusilla* and *Melita zeylanica* being found in lesser numbers in the same habitat. Around the shore of the system *Orchestia ancheidos* was common while *Eriopisa chilensis* was recorded in the mangroves and marshes. *Afrochiltonia capensis* and *Orchestia rectipalma* were to be found in areas of low salinity where rivers flowed into the lake.

Richard's Bay station data

<i>Catalogue no.</i>	<i>Date</i>	<i>Location</i>
RHB 5	21/7/48	Muddy bank opposite hotel
RHB 38	—/2/49	Sandy beach near mouth
RHB 39	26/1/49	Muddy shore, Pelican Island.
RHB 40	24/1/49	Amongst <i>Zostera</i> off Pelican Island
RHB 84	16/7/49	Trawl in <i>Zostera</i> bed
RHB 86	16/7/49	Netting in <i>Zostera</i> bed
RHB 93	17/7/49	Sandy beach below hotel
RHB 109	30/1/49	Muddy sand near mouth
RHB 113	25/1/51	Netting in <i>Zostera</i> , Pelican Island
RHB 114	25/1/51	Netting in shallows of channel
RHB 124	25/1/51	Netting in reeds at river mouth
RHB 127	26/1/51	Netting in mangroves near mouth
RHB 129	26/1/51	Hand-netting at river mouth
RHB 132	26/1/51	Sievings from <i>Zostera</i> near mouth

(d) *Durban Bay* (DBN)

A description of Durban Bay and its ecology may be found in Day & Morgans (1956). This landlocked bay has been extensively developed to form one of the largest harbours in the Southern Hemisphere. The narrow entrance is guarded by a pier to the north and a breakwater to the south. From the entrance the bay extends for about 6 km inland having a maximum width of about 4 km. The north, and much of the south bank, have been developed as a harbour, but at the time of sampling there were areas of mangrove to the south-west and large central sandbanks which were relatively undisturbed.

Two small polluted rivers flow into the bay but they do not significantly lower the salinity or affect tidal flow in the bay as a whole. Surface temperatures in the system vary between 20–25°C while currents and wave action are slight except in the entrance.

Durban Bay was visited on four occasions between 1950 and 1952 by zoologists from the University of Cape Town. The teams collected for about two weeks on each occasion, netting and dredging in deeper waters and digging or hand collecting intertidally.

Fifteen species of amphipod are represented in the collections. These

predominantly consist of hard-substrate types such as *Caprella equilibra*, *Stenothoe valida*, *Podocerus brasiliensis*, *Elasmopus pecteniscus* and *Erichthonius brasiliensis*, which, to a large extent, inhabit artificial structures in the bay. Only five of the species were recorded from soft substrates and none of these were common. Although the muddy bottoms of the channels were sampled, no amphipods were recorded.

It is evident from these results that the fauna of the bay has been radically altered by human factors. Dredging and pollution of the channels have destroyed the benthic fauna of these areas while the intertidal sand flats have also been adversely affected by oil spillage, bait collecting and the like. The construction of wharfs has compressed much of the shoreline into vertical faces which lack the variety of niches found naturally, although favouring the proliferation of certain species.

Collection stations in the bay are denoted by the symbol DBN, those stations from which amphipods were recovered are listed below.

Durban Bay station data

<i>Catalogue no.</i>	<i>Date</i>	<i>Location</i>
DBN 2	7/7/50	Scraped from floating jetty
DBN 44	17/7/50	Amongst shelly sand, edge of channel
DBN 50	18/7/50	From sponge on muddy sand, centre banks
DBN 52	18/7/50	Netting in main channel
DBN 62	20/7/50	Collection from stones at culvert entrances
DBN 77	16/7/50	From <i>Zostera</i> , western shore
DBN 79	22/7/50	Sandy rocks, southern shore
DBN 131	15/1/51	Scrapings from ships hulls
DBN 143	9/1/51	Among algae, North Pier
DBN 158	30/9/51	Sand and drain pipes, southern shore
DBN 165	30/9/51	Intertidal rocks, southern shore
DBN 176	1/10/51	Hard objects at low tide, centre banks
DBN 192	2/10/51	Solid objects on causeway
DBN 199	3/10/51	From rocks, North Pier
DBN 201	3/10/51	From rocks, North Pier
DBN 241	23/4/52	From loose rocks, harbour entrance
DBN 251	24/4/52	Scrapings from buoy, mid channel
DBN 264	25/4/52	Surface of centre banks at low tide
DBN 271	26/4/52	Balanoid zone of pier
DBN 322	28/4/52	Concrete wall, south bank
DBN 371	30/4/52	Concrete wall, harbour entrance
DBN 373	30/4/52	Stones, harbour entrance
DBN 379	1/5/52	Scrapings from hull of launch
DBN 396	24/4/52	Scrapings from ship's hull
DBN 404	23/4/52	From buoy in channel.

(e) *Estuaries in the Umkomaas area (UMK)*

The samples in this series were collected from small estuaries between Durban and Umkomaas. The fast flowing muddy Umkomaas river proved devoid of amphipods while several species were found in the adjoining relatively clear estuaries of the Umgababa, Umzimbazi, Amalanga and Isipingo Rivers.

These rivers had estuaries typical of the area in that they are closed most of the year, breaking through to the sea during summer. Typical amphipods found under these conditions are *Afrochiltonia capensis* and *Orchestia rectipalma*,

found in conditions of low salinity, and *Melita zeylanica*, *Corophium triaenonyx*, *Grandidierella bonnieri* and *Grandidierella lignorum*, found nearer the mouths. *Orchestia ancheidos* is to be found along the banks of these estuaries.

UMK station data

Catalogue no.	Date	Location
UMK 18	29/1/50	Muddy sand near mouth, Umzimbazi River
UMK 19	29/1/50	Stones near mouth, Umzimbazi River
UMK 23	30/1/50	Amongst <i>Zostera</i> near mouth, Umzimbazi River
UMK 24	30/1/50	Shore collection, Umgababa River
UMK 25	30/1/50	Netting 1 km from mouth, Umgababa River
UMK 26	30/1/50	Collection from stones, Umgababa River
UMK 27	30/1/50	<i>Zostera</i> bed, Umgababa River
UMK 29	19/7/47	Grass around mouth, Amalanga River
UMK 33	19/7/50	Sandy bottom of Isipingo River
UMK 35	7/7/46	Umzimbazi River lagoon

(f) Estuaries near Port Shepstone (SHP)

Collections from the Umzimkulu, Umtentwini and Uvongo River estuaries are incorporated in this series. The clear sandy Uvongo lagoon did not reveal any amphipods but in the rich muddy Umzimkulu estuary *Grandidierella lignorum* was common. *Orchestia ancheidos* was found commonly around the banks of the Umtentwini.

SHP station data

Catalogue no.	Date	Location
SHP 2	22/1/50	Muddy rocks, mouth of Umzimkulu River
SHP 5	22/1/50	Grass on bank of Umtentwini River

(g) Estuaries near Port Edward (EDW)

During a brief visit to the Umtamvuna River estuary, 3 km from Port Edward, two species of amphipod were recorded. These were *Orchestia rectipalma* and *Afrochiltonia capensis*, which were both found along the driftline near the mouth of the estuary.

SYSTEMATICS

The systematic text is presented in alphabetical order of families, genera within each family, and then of species within each genus. Taxonomy follows J. L. Barnard (1969, 1970a) for the Gammaridea, and McCain (1970) for the Caprellidea. World species lists of these groups may be found in J. L. Barnard (1958), and McCain & Steinberg (1970) respectively.

Samples in the collections of the University of Cape Town are labelled according to a catalogue—sample—species code. Thus all samples from a particular area are denoted by a letter code, usually a triplet suggesting the name of the area covered (e.g. RHB for Richard's Bay). The first sample in this series is RHB 1 and the species within that sample are labelled RHB 1A, RHB 1B etc. This system has the advantage of enabling species to be labelled before their identity is known. Where the number of individuals of a species

has been recorded this is given after the catalogue number in brackets. Occasionally only an index of abundance (A—abundant, C—common, P—present) was recorded, in which case this is provided instead.

All previous records of amphipods from Natal in the literature are also noted. The location of benthic samples was frequently given by these authors in a somewhat vague fashion (e.g. 'off Cape Natal'). In these cases I have given the location in terms of the latitude/longitude square in which the sample was taken, followed by the depth. Thus 28/32/100 m indicates a record from the latitude/longitude square 28°S/32°E at a depth of 100 m. The source of the record follows the code in brackets. In a few cases in K. H. Barnard's papers the material reported on was derived from University of Cape Town collections. In these cases duplication has been avoided by giving only the University code.

Analysis is restricted to species occurring in less than 1 000 m of water, species occurring below this depth being regarded as abyssal, rather than as members of the South African fauna. Terrestrial and truly fresh-water species are omitted while estuarine species and those dwelling on the strand are included. No attempt has been made to provide a full list of synonyms but the reader is referred to at least one description of each species, preference being given to those incorporating good figures or pertaining specifically to the southern African region. Where brief diagnoses are given these are intended to differentiate the species from others in that genus. Generic diagnoses may be found in J. L. Barnard (1969b) for gammaridean genera or via McCain & Steinberg (1970) for caprellid genera. Where no diagnoses are provided here they may be found in Parts 1 and 2 of this series.

Limbs of the pereon have been referred to throughout as gnathopods 1 and 2, followed by pereopods 1–5. This follows K. H. Barnard and J. L. Barnard, but it should be noted that many authors, including McCain, Ledoyer and Schellenberg number pereopods according to the pereon segments on which they occur (i.e. gnathopods 1 and 2 followed by pereopods 3–7).

Type-specimens of all new species have been placed in the South African Museum, Cape Town.

Suborder GAMMARIDEA

Family Ampeliscidae

Ampelisca anisuropa (Stebbing, 1908)

Byblis anisuropus Stebbing, 1908: 72, pl. 10. K. H. Barnard, 1955: 82, fig. 4ob.

Records: NIWR/1/15B(1), NIWR/2/33C(2); NAD 39B(8), NAD 66T(2).

Diagnosis: Antenna 1 as long as peduncle of antenna 2; antenna 2 as long as body; anterior margin of head oblique, sinuous; two pairs of eyes, with corneal lenses; article 3 of pereopod 5 shorter than 4, article 4 slightly lobed posteriorly, 5 not notched anteriorly, distally lobed to embrace the narrow article 6;

7 minute; third pleonal epimeron postero-distally rounded; pleon segment 4 bearing a triangular dorsal carina.

Distribution: Endemic, Natal to west coast of South Africa.

Remarks: This species is one of three intermediate between *Ampelisca* and *Byblis*. Normally *Ampelisca* can be distinguished from *Byblis* by virtue of the longer telson, which is more than 50 per cent cleft, by the lack of setae on the anterior margin of article 2 of pereopod 5 near its junction with article 3, and by the lamellar article 6 and lanceolate article 7 of pereopod 5.

Ampelisca byblisoides (K. H. Barnard), *Ampelisca subantarctica* (Schellenberg) and *Byblis anisuropus* Stebbing display a cleft telson, sparse setation of article 2 of pereopod 5 and a narrow article 6 and minute article 7 of pereopod 5. Since two of the species have been assigned previously to *Ampelisca* [*A. subantarctica* was moved from *Byblis* by J. L. Barnard (1966)] the move proposed here of *B. anisuropus* to the genus *Ampelisca* will enable these two genera to be clearly distinguishable by the degree of division of the telson and by the density of setae on pereopod 5.

Ampelisca brachyceras Walker, 1904

Ampelisca brachyceras Walker, 1904: 252, pl. 2, fig. 13.

Records: NIWR/2/30G(2), NIWR/2/33H(1).

Distribution: Ceylon, southern Africa.

Ampelisca brevicornis (Costa, 1853)

Ampelisca brevicornis: Reid, 1951: 204-210, figs 9-15.

Records: NIWR/1/14C(1), NIWR/UM/M4A(1), NIWR/UM/P1A(1), NIWR/2/33B(3), NIWR/2/36E(8); NAD 27B(3), NAD 43D(1), NAD 61B(1), NAD 86P(1).

Distribution: Mediterranean, Atlantic, Indo-Pacific.

Ampelisca chiltoni Stebbing, 1888

Ampelisca chiltoni Stebbing, 1888: 1042, pl. 103. J. L. Barnard, 1961: 61, fig. 31.

Records: NIWR/1/27F(1); NAD 11T(1).

Diagnosis: Antenna 1 as long as peduncle of 2; antenna 2 as long as body; anterior margin of head almost transverse; two pairs of eyes, with corneal lenses; article 3 of pereopod 5 slightly shorter than 4, article 4 slightly lobed posteriorly, 5 notched anteriorly, not embracing 6, which is almost as wide as 5, 7 as long as 6; third pleonal epimeron with a small postero-distal tooth; pleon segment 4 not carinate.

Distribution: Indo-Pacific.

Family **Amphilochidae***Amphilochus neapolitanus* Della Valle, 1893

Amphilochus neapolitanus: J. L. Barnard, 1962b: 126, fig. 3.

Records: DBN 50D.

Diagnosis: Eyes round or slightly oval, fairly small; antenna 1 extending beyond peduncle of antenna 2; coxa 1 quadrate; article 5 of gnathopod 1 extending 75 per cent of way along hind margin of 6; gnathopod 2 larger than 1, article 5 produced along entire hind margin of 6, palm transverse; telson much shorter than peduncle of uropod 3.

Distribution: Cosmopolitan in tropical and temperate seas.

Cyproidea ornata (Haswell, 1880)

Cyproidea ornata: J. L. Barnard, 1972: 21, figs 4-5.

Records: NIWR/2/24G(1), NIWR/2/30Q(1), NIWR/2/36M(1); Port Shepstone (K. H. Barnard 1925).

Distribution: Indo-Pacific, extending to South West Africa.

Gitanopsis pusilla K. H. Barnard, 1916

Gitanopsis pusilla K. H. Barnard, 1916: 144.

Records: NIWR/1/5B(1), NIWR/1/9A(1), NIWR/1/27M(3), NIWR/2/24J(1), NIWR/2/27K(1), NIWR/2/30N(1), NIWR/2/35B(1), NIWR/2/36L(5), NIWR/UM/M1C(1); RHB 40B(2).

Distribution: Southern Africa, southern ocean islands.

Family **Ampithoidae***Ampithoe africana* K. H. Barnard, 1925

Ampithoe africana K. H. Barnard, 1925: 361.

Records: DBN 143D(1), DBN 241V(1), DBN 271D(1), DBN 322F(1); NA 244J(5).

Diagnosis: Antenna 2 strongly setose; article 2 of gnathopods 1 and 2 lobed, article 6 of gnathopod 1 ovate, palm oblique, sinuate; article 6 of gnathopod 2 ovate-oblong, palm oblique, straight or slightly concave, defining angle obtuse with a short stout spine, dactyl serrulate; article 2 of pereopods 1 and 2 not strongly expanded, twice as long as broad.

Distribution: Endemic, Knysna to Durban.

Cymadusa filosa Savigny, 1818

Cymadusa australis: K. H. Barnard, 1940: 486.

Cymadusa filosa: J. L. Barnard, 1955: 29, fig. 15.

Records: G 13D, G 15D.

Distribution: Circumtropical.

Exampithoe natalensis K. H. Barnard, 1925

Exampithoe natalensis K. H. Barnard, 1925: 363, pl. 34, figs 16, 17.

Records: Port Shepstone (K. H. Barnard 1925).

Diagnosis: This genus is monotypic so the characters of the genus identify the species. Antenna 1 without accessory flagellum; mandible with slender palp, molar greatly reduced; gnathopod 1 stouter but shorter than 2; article 6 of pereopods 3-5 apically expanded; outer ramus of uropod 3 with two hooks.

Distribution: The above record is the only one to date.

Family **Aoridae***Aora typica* Kröyer, 1845

Aora typica: Ledoyer, 1967: 131, fig. 15.

Records: Durban (K. H. Barnard 1916).

Distribution: Cosmopolitan.

Lemboides acanthiger K. H. Barnard, 1916

Lemboides acanthiger K. H. Barnard, 1916: 239, pl. 28, figs 7-8.

Records: NAD 27C(1), NAD 56E(2); 29/31/110 m (K. H. Barnard 1916).

Diagnosis: Ventral surface of pereon segments 3 and 4 with large forwardly-directed curved spines, smaller spines on segments 5-7; palm of gnathopod 1 oblique, defined by a large acute tooth, dactyl nearly twice as long as palm, smooth; palm of gnathopod 2 smoothly concave.

Distribution: Endemic; Natal to False Bay.

Lembos hypacanthus K. H. Barnard, 1916

Lembos hypacanthus K. H. Barnard, 1916: 237, pl. 28, figs 5-6.

Records: NAD 43E(1).

Distribution: Endemic, Natal to South West Africa.

Microdeutopus thumbellinus n. sp.

Fig. 2

Description of male (3.5 mm): Head as long as first two pereon segments, ocular lobes short, acute, eyes large, oval, their centres dark but the peripheries colourless; (both antennae missing); primary cutting edge of mandible with four teeth, lacinia mobilis with five teeth, spine row of five spines, molar quadrate, triturative, palp short and stout, 3-articulate; maxilla 1 with 2-articulate palp exceeding outer plate, palp tipped by nine spines and three setae, outer plate with 10 terminal spines, inner plate tipped by a single seta; inner and outer plates of maxilla 2 subequal; maxilliped of normal structure, bearing 4-articulate palp.

Coxa 1 produced antero-distally into an acute point (Fig. 2A), ventral margin concave, remaining coxae rounded-quadrate, diminishing in size posteriorly; article 2 of gnathopod 1 expanding distally from a narrow base, article 5 greatly enlarged, its posterior margin distally produced into a single triangular tooth, an unusual large blunt process arises from the centre of the inner surface of the article (Fig. 2B), article 6 shorter and considerably narrower than 5, dactyl subequal to 6; gnathopod 2 subchelate, much smaller than 1, articles 5 and 6 subequal, dactyl slightly exceeding oblique undefined palp; (pereopods 1-5 missing); pereon segments lacking any ventral processes.

Pleonal epimera 1-3 postero-distally rounded; uropods extending equally; peduncle of uropod 1 (Fig. 2C) bearing four dorsal spines and a large terminal spine, inner ramus slightly the longer, rami strongly spinose dorsally and terminally; uropod 2 (Fig. 2D) similar to 1 but without a terminal peduncular spine; uropod 3 (Fig. 2E) with a single dorsal spine on the peduncle, rami subequal, spinose; telson quadrate, fleshy, a short thick spine and two setae at each distal apex.

Holotype: SAM A13222, male, 3.5 mm.

Type-locality: NIWR/UM/P1E, 15 September 1970; 29°59'S/31°03'E, depth 60 m.

Female: Similar to the male except for the structure of gnathopod 1 (Fig. 2H), which is like gnathopod 2, and the presence of brood pouches.

Relationships: Adults of this species are easily distinguished by virtue of the unusual projection arising from the inner surface of article 5 of gnathopod 1 male. In male specimens under 3 mm this process is less obvious (Fig. 2G), but specimens can still be identified by the lack of accessory teeth on article 5 of gnathopod 1, and by the relative size of article 5 and 6, which features are unusual for the genus. *Microdeutopus damnoniensis* (Bate) is probably the most closely related species but has rounded ocular lobes and smaller eyes, as well as lacking the process on article 5 of gnathopod 1.

Material: NIWR/UM/P1E(2), NIWR/UM/M1E(2), NIWR/2/21A(1), NIWR/2/24D(9), NIWR/2/30R(1), NIWR/2/36R(5).

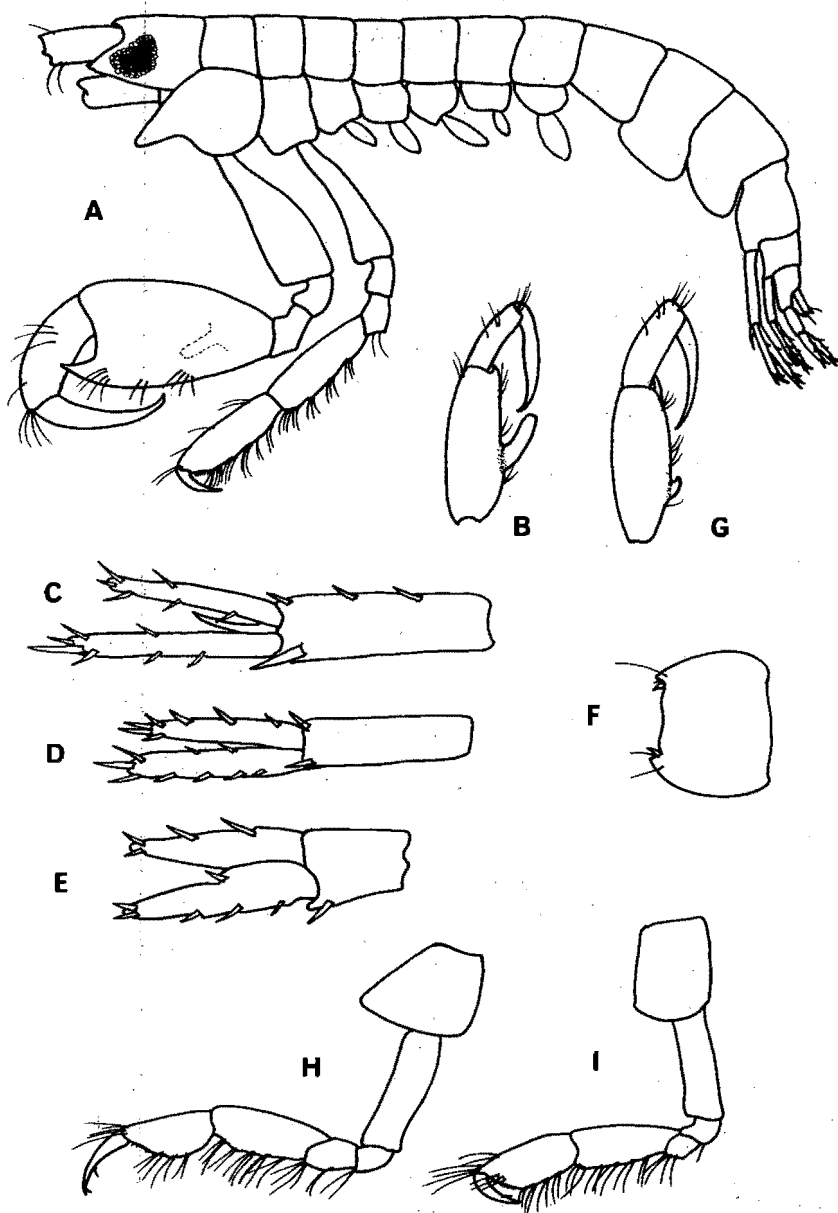


Fig. 2. *Microdeutopus thumbellinus* n. sp.

Male, 3.5 mm: A—lateral aspect; B—dorsal view of articles 5-7 of gnathopod 1; C, D, E—uropods 1, 2, 3; F—telson. Male, 3 mm: G—dorsal view of articles 5-7 of gnathopod 1. Female, 3 mm: H—gnathopod 1; I—gnathopod 2.

Family **Colomastigidae***Colomastix pusilla* Grube, 1864

Colomastix pusilla: J. L. Barnard, 1955: 39-42, fig. 20.

Records: NAD 7B(2).

Distribution: Cosmopolitan in tropical and temperate seas.

Family **Corophidae***Cerapus tubularis* Say, 1817

Cerapus tubularis: J. L. Barnard, 1962b: 61, figs 27-28.

Records: NIWR/2/27E(2), NIWR/2/28A(1), NIWR/2/30L(6); NAD 19C(3); NA 244K(1); 28/32/165 m (K. H. Barnard 1916 as *C. abditus*); 29/31/430 m (J. L. Barnard 1961).

Distribution: Cosmopolitan in warm and temperate seas.

Corophium acherusicum Costa, 1857

Corophium acherusicum: J. L. Barnard, 1971: 59, figs 17, 26.

Records: DBN 50C(P), DBN 131H(P), DBN 176V(2), DBN 251F(1), DBN 271C, DBN 396C(4); Durban Bay (K. H. Barnard 1916).

Distribution: Cosmopolitan in tropical and temperate seas.

Corophium triaenonyx Stebbing, 1904

Corophium triaenonyx Stebbing, 1904: 25, pl. 6A.

Records: STL 252G, STL 296V(3), STL 309G(70), STL 312H(2); UMK 18T(C), UMK 19V(C), UMK 23P(C), UMK 25E(P), UMK 26D(C), UMK 27P(C); Lake Sibayi (Bolt 1969).

Distribution: Mediterranean, Atlantic and Indian Oceans.

Erichthonius brasiliensis (Dana, 1853)

Erichthonius brasiliensis: J. L. Barnard, 1971: 61, fig. 17E.

Records: DBN 50B(P), DBN 131N(1), DBN 241U(C), DBN 251E(C), DBN 264H(P), DBN 396B(P); NA 243D(1).

Distribution: Cosmopolitan in tropical and temperate seas.

Grandidierella bonnieri Stebbing, 1908

Grandidierella bonnieri: Ledoyer, 1967: 137, fig. 28A.

Records: DBN 44M, DBN 50A(P), DBN 52R, DBN 77B(4), DBN 165P(1); STL 89J(P), STL 101B, STL 188A, STL 204F, STL 223A(2), STL 312S(1);

RHB 5G(A), RHB 39A(1), RHB 40A(C), RHB 84D(A), RHB 86L, RHB 109A(1), RHB 113J(C), RHB 114C(1); UMK 11E(P), UMK 23R(C), UMK 27M(C); Umlalazi estuary (Hill 1966).

Distribution: Caribbean, Atlantic and Indian Oceans.

Grandidierella lignorum K. H. Barnard, 1935

Grandidierella lignorum K. H. Barnard, 1935: 300, fig. 14.

Records: UMK 18S(A), UMK 23S(P), UMK 25D(P), UMK 26F(P), UMK 27C(P), UMK 33D(2); SHP 2A(C); Lake Sibayi (Boltt 1969).

Diagnosis: Pereon segments of male without ventral processes; coxae 1 and 2 sharply pointed antero-distally; article 5 of gnathopod 1 ovoid, a pointed process on lower distal corner, another on distal margin and a third on hind margin.

Distribution: Endemic to brack waters on east coast of South Africa.

Siphonocetes dellavallei Stebbing, 1893

Siphonocetes dellavallei: Chevreux & Fage, 1925: 361, fig. 369.

Records: NIWR/1/26D(3), NIWR/1/27N(1), NIWR/2/21D(1), NIWR/2/23F(3).

Distribution: Mediterranean, southern Africa.

Siphonocetes orientalis Walker, 1904

Siphonocetes orientalis Walker, 1904: 294, pl. 7, fig. 49. K. H. Barnard, 1916: 270.

Records: NAD 86Q(9); 29/31/200 m (K. H. Barnard 1916).

Distribution: Tropical Indo-Pacific.

Unciolella spinosa n. sp.

Fig. 3

Description of male (7 mm): Head as long as first two pereon segments, eyes fairly large, round, colourless, head produced into a small lobe immediately below eye; antenna 1 as long as pereon plus pleon, articles 1 and 3 subequal, each 80 per cent as long as article 2, flagellum shorter than peduncle, 9-articulate, accessory flagellum of two long articles and one small article; (antenna 2 missing); mandible (Fig. 3B) with triturative molar and 3-articulate palp, spine row of eight strong spines, articles 2 and 3 of palp slightly longer than article 1, article 3 with an oblique row of medial plumose setae and a row of about 25 setae terminally; inner plate of maxilla 1 tipped by a single seta, outer plate bearing eight serrate spines, palp bi-articulate, terminally bearing three setae and five spine teeth; inner plate of maxilliped (Fig. 3D) with a row of

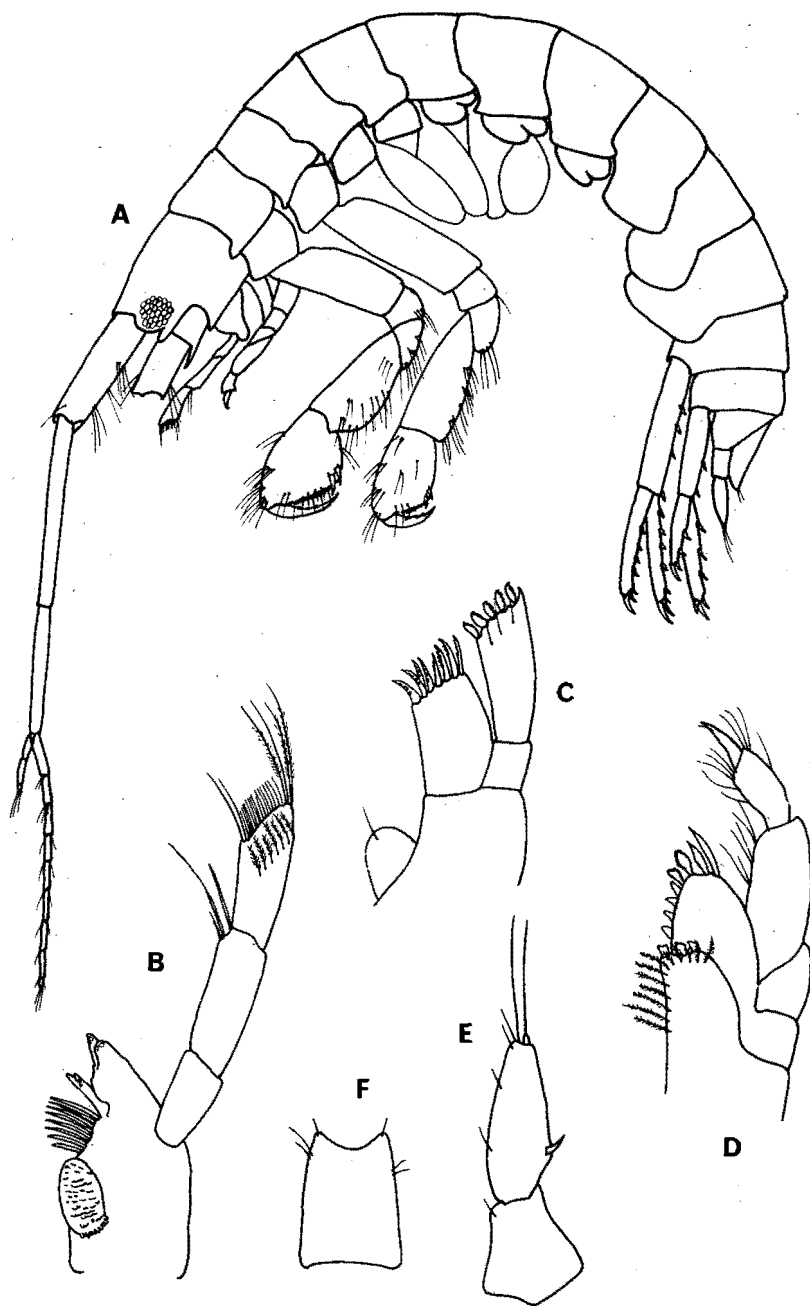


Fig. 3. *Unciolella spinosa* n. sp.
Male, 7 mm: A—lateral aspect; B—mandible; C—maxilla 1; D—maxilliped; E—uropod 3;
F—telson.

lateral plumose setae and three terminal spine teeth, outer plate marginally bearing eight successively longer spine teeth, palp 4-articulate.

Surface of body porcelainous with scattered pits and furrows but these less marked than in *U. foveolata* K. H. Barnard, 1955; coxae 1-4 quadrate, remaining coxae rounded; gnathopod 1 slightly larger than 2, article 2 expanding markedly from its base, article 5 slightly longer than 6, palm oblique, minutely pectinate, defined by two very large spines, dactyl cut into 3 teeth, equal to palm; gnathopod 2 resembling 1 but slightly smaller and more elongate, palm pectinate, defined by 2 spines, dactyl serrate; (pereopods all missing); pereon segments 3-5 each with a single mid-ventral forwardly directed spine, spines becoming smaller posteriorly.

Pleonal epimera 1-3 smoothly rounded; uropod 1 large (Fig. 3A), peduncle with four dorsal spines, rami equal, each with four dorsal and 3-4 terminal spines; uropod 2 extending as far as 1, exceeding uropod 3 by nearly the whole length of the rami, outer ramus 70 per cent as long as inner, bearing two dorsal and two terminal spines; uropod 3 uniramous, much shorter than 1 and 2, peduncle medially expanded (Fig. 3E), bearing single seta, ramus 1.5 times peduncle, bearing a single lateral spine, 2-3 terminal setae and a minute second article which is hardly more than an expanded base to the single large seta it bears; telson large, fleshy, distally emarginate with a single seta at each apex and 2 marginal setae on each side.

Holotype: SAM A13217, male 7 mm.

Type-locality: NIWR/1/27P, 15 May 1972, 30°47'S/30°33'E, depth 58 m.

Female: Similar to the male except for the possession of broad plates and the absence of mid-ventral spines on the pereon segments; ovigerous at 5 mm.

Relationships: There are only two other species in this genus, *U. foveolata* K. H. Barnard, 1955 and *U. lunula* Chevreux, 1910. The present species can be distinguished from these by the enlarged uropods 1 and 2, which in the other two species barely exceed uropod 3; by the presence of mid-ventral spines on segments 3-5 and by the 3-articulate accessory flagellum (this is uni-articulate in *U. lunula* and 4-5 articulate in *U. foveolata*).

Remarks: It is characteristic of this species, and of *U. foveolata* to which it is obviously closely related, to autotomize its appendages when preserved. Animals almost invariably lack antennae and pereopods, although the gnathopods are seldom lost. Over 100 individuals of the present species are represented in the collections of the University of Cape Town, and of these only one, the holotype, possesses a first antenna enabling it to be described.

The placement of this genus in Corophiidae as opposed to Isaeidae or Aoridae, to which it could equally well belong, underlines the impossibility of distinguishing these three families and the necessity for their fusion.

Material: NIWR/1/13B(1), NIWR/1/27P(2), NIWR/UM/PIC(1), NIWR/UM/P5A(2), NIWR/2/21B(2), NIWR/2/24C(18), NIWR/2/27D(2), NIWR/2/30F(1), NIWR/2/36P(9).

Family **Dexaminidae***Atylus granulosus* (Walker, 1904)

Atylus granulosus: Ledoyer, 1967: 127, fig. 8.

Records: NIWR/2/36K(1); 30/30/200 m, 29/32/50 m (K. H. Barnard 1916).

Diagnosis: K. H. Barnard's (1916) specimens agree with Walker's (1904) brief description except that pleon segment 1 as well as 2 and 3 show carinae produced into small acute teeth posteriorly; the urosomal carinae are much larger than figured by Ledoyer (1967); urosome segment 1 has a small setiferous notch followed by a deep depression and a hoodlike arched process, segment 2 plus 3 smoothly arched distally; article 2 of pereopod 3 postero-distally produced into a strong curved process extending beyond the tip of article 3.

Distribution: Indian Ocean.

Polycheria atolli Walker, 1905

Polycheria atolli: Ledoyer, 1967: 131, fig. 13A.

Records: NIWR/1/14L(1); D 96A; NAD 16P(2).

Distribution: Southern oceans, extending into tropical Indian Ocean.

Family **Eusiridae***Eusiroides monoculodes* (Haswell, 1880)

Eusiroides monoculodes: J. L. Barnard, 1964: 221, fig. 1.

Records: NAD 4W(2), NAD 81J(2), NAD 191G(2); 30/30/24 m, 29/31/100 m (K. H. Barnard 1916).

Distribution: Cosmopolitan.

Paramoera capensis (Dana, 1853)

Paramoera capensis: K. H. Barnard, 1916: 183-186.

Paramoera schizurus Stebbing, 1918: 66, pl. 10.

Records: D 261; M 19F; Durban (Stebbing 1918); Port Shepstone (K. H. Barnard 1940).

Distribution: Atlantic, Indo-Pacific.

Rhachotropis grimaldi Chevreux, 1887

Rhachotropis grimaldi: K. H. Barnard, 1916: 179.

Records: 29/3/800 m (K. H. Barnard 1916).

Diagnosis: Pereon not carinate but segment 7 in male with a small median tooth; pleon segments 1-3 dorsally tricarinate, all the carinae ending in acute

scarcely-upturned teeth, pleon segment 4 with a single median carina; article 2 of pereopod 5 with serrate hind margin, postero-distal angle rounded; pleonal epimera 2 and 3 posteriorly serrate.

Distribution: Atlantic, extending to Natal.

Family **Gammaridae**

Ceradocus natalensis n. sp.

Fig. 4

Description of male (10 mm): Head slightly shorter than two pereon segments, a pronounced slit below the eye, which is large and dark; antenna 1 reaching end of pereon, articles 1 and 2 subequal, 3 short, flagellum of 20–25 articles, accessory flagellum of about nine articles; antenna 2 slightly shorter than antenna 1, article 2 produced ventrally to tip of article 3; article 1 of mandibular palp with inner margin distally produced; article 3 slightly less than half length of article 2 (Fig. 4D), inner plate of maxilla 1 densely setose, outer plate armed with forked and serrate spines, palp with about 11 apical setae; inner plate of maxilla 2 densely setose medially and terminally; outer plate of maxilliped armed with serrate spines.

Coxa 1 acutely produced anteriorly, lower margin with a few fine setae; article 2 of gnathopod 1 expanded just below its origin, articles 5 and 6 subequal and densely setose posteriorly; palm oblique, setose, not defined; dactyl equal to palm (Fig. 4A); gnathopod 2 differing on the two sides, that of the left side very large, article 2 anteriorly keeled, article 5 cup-shaped, 6 very large; palm transverse with a strong defining tooth, a few irregular crenulations and then a square topped tooth and a step near the finger hinge; dactyl as long as palm, abruptly constricted near its origin to fit the step in palm; gnathopod 2 of right side much smaller, article 6 less than twice length of 5, palm oblique, convex; dactyl equal to palm, not constricted; pereopod 1 slightly longer than 2 (pereopods 3–5 missing).

Pleon segments 1–3 with posterior margins dorsally serrate; segments 1 and 2 with 6 teeth on each side, the central pair the smallest and the second pair the largest; third pleon segment also with 6 pairs of teeth dorsally, the most lateral pair the largest; first pleonal epimeron with a tooth at postero-inferior corner and a much smaller one above and below it, an oblique ridge runs across the epimeron to the corner tooth; second pleonal epimeron similar but with two teeth on posterior margin; third pleonal epimeron without oblique ridge, three teeth on lower margin, a larger one at postero-inferior corner, and five along the posterior margin; pleon segment 4 with a flat-lying mid-dorsal tooth flanked by a pair of much larger upstanding teeth; pleon segment 5 smooth mid-dorsally, with three pairs of small lateral teeth; uropod 1 extending slightly beyond uropod 2, rami equal, subequal to peduncle; outer ramus of uropod 2 slightly shorter than inner; uropod 3 (Fig. 4F) extending well beyond 1 and 2,

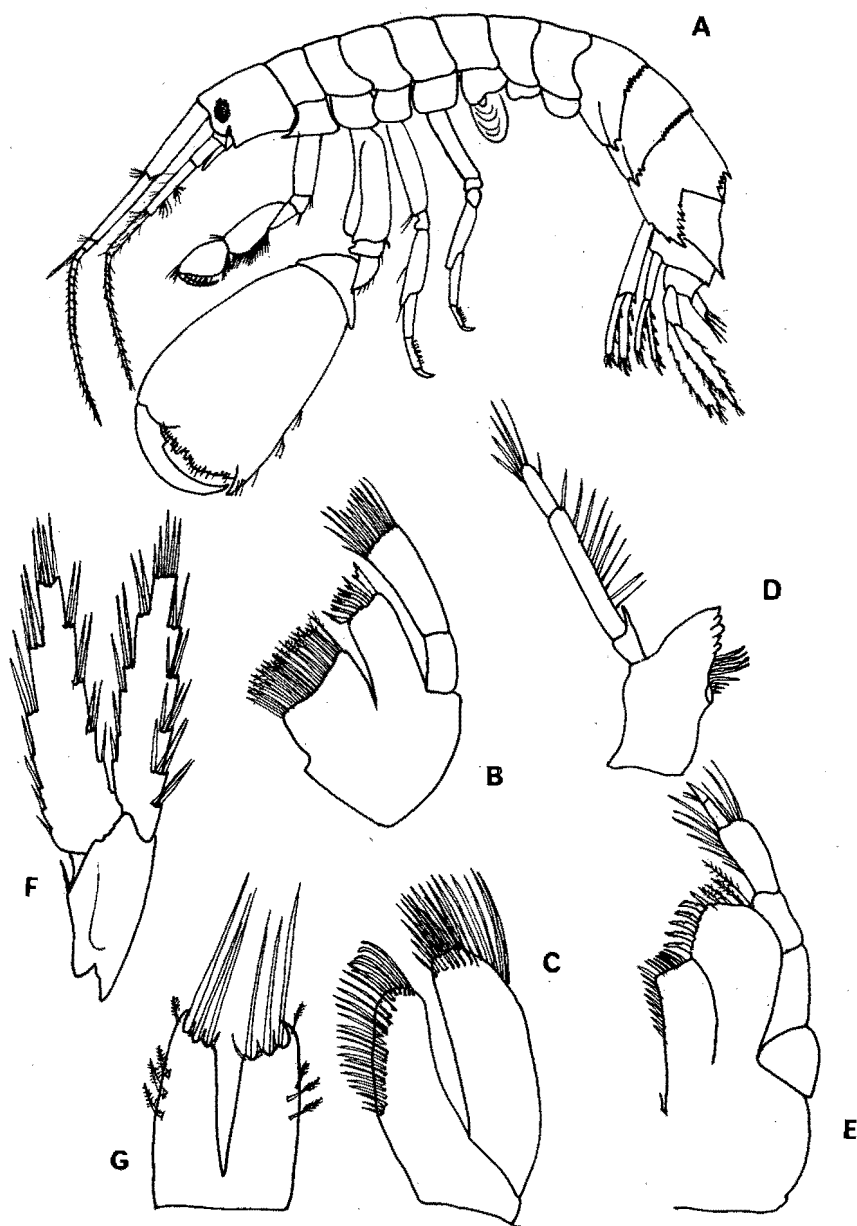


Fig. 4. *Ceradocus natalensis* n. sp.
Male, 10 mm: A—lateral aspect; B—maxilla 1; C—maxilla 2; D—mandible; E—maxilliped;
F—uropod 3; G—telson.

rami broad, subequal, heavily spinose; telson cleft almost to base, each lobe with four plumose setae on lateral margin and three long terminal spines, three small spines lying at bases of long spines. (Fig. 4G).

Holotype: SAM A13164, male 10 mm.

Type-locality: NAD 4N, 30°47'S/30°29'E, 17 May 1958, depth 44 m, substrate stones.

Relationships: The genus *Ceradocus* was revised by Sheard (1939). The present species falls into his subgenus *Denticeradocus* by virtue of its multi-dentate pleon segments. It can be distinguished from other species in the group by details of pleonal armature and structure of the telson, as well as by the shape of gnathopod 2. Closely related species include *Ceradocus chevreuxi* Sheard, which has five large spines on each lobe of the telson, and *C. hawaiiensis* J. L. Barnard which has two spines at each telsonic apex and a more strongly toothed second gnathopod.

Material: NAD 4N, two males.

Cerodocus rubromaculatus (Stimpson, 1885)

Cerodocus rubromaculatus: J. L. Barnard, 1972: 220, fig. 129.

Records: NIWR/1/27B(1), NIWR/UM/R3A(1); NAD 4T(4).

Distribution: Indo-Pacific, extending to South West Africa.

Elasmopus affinis Della Valle, 1893

Elasmopus affinis: Sars, 1895: 521, pl. 183.

Records: NAD 7A(1).

Distribution: Mediterranean, Atlantic, southern Indian Ocean.

Elasmopus japonicus Stephensen, 1932

Elasmopus japonicus Stephensen, 1932: 490, figs 1-2. Sivaprakasam, 1968: 278, figs 3-5.

Records: D 273; Durban (K. H. Barnard 1925 as *E. spinimanus*); Isipingo (K. H. Barnard 1940).

Distribution: Japan, India, southern Africa.

Elasmopus pecteniscus Bate, 1862

Elasmopus pecteniscus: J. L. Barnard, 1970b: 125, figs 73-74.

Records: DBN 2V, DBN 62G(C), DBN 79A, DBN 131G(C), DBN 158X(1), DBN 176U(3), DBN 192L(1), DBN 199V(C), DBN 201H(3), DBN 241T(C), DBN 251D(C), DBN 264L, DBN 396A(C), DBN 371E(1), DBN 379B(FC); G 15H; U 28F; M 19D; Durban (K. H. Barnard 1916).

Diagnosis: Eyes without black pigment; outer ramus of uropod 3 lacking article 2, inner ramus $\frac{3}{4}$ outer; telson of medium length, apices truncate, with 4-6 apical spines; gnathopod 2 male with hirsute, S-shaped, undefined palm, a small process distally and a ridge on inner proximal surface; dactyl simple, curved, longer than palm; article 2 of pereopod 4 male postero-distally excavate and serrate.

Distribution: Cosmopolitan in tropical and temperate seas.

Eriopisa chilensis (Chilton, 1921)

Niphargus chilensis Chilton, 1921: 531, fig. 4.

Records: RHB 127J(1); STL 193A(1).

Diagnosis: Eyes small, irregular; head without lateral cephalic notch; article 4 of gnathopod 1 produced posteriorly into a rounded lobe; palm of gnathopod 2 oblique, sinous, sub-equal to hind margin; articles 1 and 2 of outer ramus of uropod 3 subequal; pleonal epimera 1 and 2 not setose, third pleonal epimeron postero-distally quadrate, slightly produced; telson cleft to base, a single stout seta at apex of each lobe.

Distribution: India, east coast of South Africa.

Maera hamigera (Haswell, 1880)

Maera hamigera: K. H. Barnard, 1916: 196 pl. 27, figs 11-12. J. L. Barnard, 1965: 507, fig 16.

Records: NIWR/1/26G(1), NIWR/2/27J(1); 29/31/170 m (K. H. Barnard 1916).

Distribution: Indo-Pacific.

Maera inaequipes Costa, 1851

Maera inaequipes: J. L. Barnard, 1959: 25, pl. 5.

Records: NIWR/1/27L(2), NIWR/2/36J(1); NA 189X(12), NA 191F(3), NA 205K(1); M 19G.

Distribution: Cosmopolitan in tropical and temperate seas.

Mallacoota subcarinata (Haswell, 1880)

Maera subcarinata: K. H. Barnard, 1940: 460, fig. 26.

Mallacoota subcarinata: J. L. Barnard, 1972: 247, figs 144-145.

Records: D 117; NAD 16R(2); 'Natal' (K. H. Barnard 1940).

Distribution: Mediterranean, Indo-Pacific.

Remarks: J. L. Barnard (1972) has redefined the genus *Maera* such that species with paired dorsal carinae on pleon segment 4 are transferred to a new genus, *Mallacoota*. *M. subcarinata* is the only species from South Africa affected by this change.

Megaluropus namaquaeensis Schellenberg, 1953

Megaluropus namaquaeensis Schellenberg, 1953: 117, fig. 5.

Records: NIWR/UM/M1D(1).

Distribution: Endemic, Natal to South West Africa.

Melita appendiculata Say, 1818

Melita appendiculata: J. L. Barnard, 1970b: 161, figs 103-104.

Records: NAD 4L(180), NAD 56B(11), NAD 66S(1), NAD 81G(6); DBN 131L(1), DBN 396D(3); Durban, 29/31/54 m, 'Morewood Cove' 50 m (K. H. Barnard 1916 as *M. fresnelii*).

Distribution: Cosmopolitan.

Melita zeylanica Stebbing, 1904

Melita zeylanica: J. L. Barnard, 1972: 235, figs 139-141.

Records: DBN 373Y(2); STL 89H(C), STL 179E(P), STL 243U, STL 251L, STL 274G, STL 296U(10), STL 299Y(A), STL 302N(6), STL 305E(A), STL 312J(5), STL 318C(1), STL 337B(6), STL 339U(1), STL 343F(11), STL 343K(2), STL 344D(A); KOS 53G(P), KOS 62C(1), KOS 69F(19), KOS 74D(11), KOS 78F(18), KOS 82D(C), KOS 83N(3); RHB 5H(1), RHB 40C(2), RHB 84E, RHB 114C(1); UMK 18Q(C), UMK 19U(C), UMK 23Q(P), UMK 26E(C), UMK 27K(P), UMK 29B(P), UMK 35J; Umlalazi estuary (Hill 1966).

Distribution: Indo-Pacific region, in brack water.

Family **Haustoriidae***Platyschnopus herdmani* Walker, 1904

Platyschnopus capensis K. H. Barnard, 1925: 338, pl. 34, figs 13, 14.

Platyschnopus herdmani: Rabindranath, 1971: 521, figs 1, 2.

Records: NIWR/1/14J(1).

Diagnosis: Head longer than first four pereon segments, rostrum oblong, anteriorly rounded, encircled basally by weak spines, eyes present, sub-cutaneous, without ocelli; third pleonal epimeron postero-distally produced and upturned, pleon segment 3 with large medio-dorsal tooth and three lateral teeth on each side.

Distribution: India, South Africa.

Urothoe coxalis n. sp.

Fig. 5

Description of male (2.5 mm): Head equal to first three pereon segments, eyes small, round; antenna 1 with 4-articulate flagellum, accessory flagellum 2-articulate; antenna 2 about half length of body, flagellum of 15 rather broad articles; palp of maxilla 1 bi-articulate, tipped by three plumose setae, outer plate terminally bearing about eight strong spines, inner plate with a single terminal seta; mandible with large smooth molar and 3-articulate palp; articles 2 and 3 of palp subequal, twice length of 1; maxilliped with 4-articulate palp, article 2 densely setose medially, outer plate of maxilliped with four spine teeth on inner margin, inner plate terminally with three spines and four setae.

Coxa 1, narrow, evenly tapering to an acute point; coxa 2 slightly produced posteriorly and bearing three setae postero-distally; coxa 3 similar to 2; coxa 4 (Fig. 5G) hugely produced postero-distally into an acute upturned tooth, apex of the tooth extending beyond the posterior margin of coxa 5, coxa 5 bilobate, 6 and 7 rounded; gnathopod 1 (Fig. 5F) simple, article 5 expanded posteriorly, longer and twice as wide as 6; gnathopod 2 (Fig. 5E) slightly chelate, article 6 widening medially; pereiopods 1 and 2 with dactyl nodulose, article 6 strongly spinose postero-distally; pereiopod 3 (Fig. 5H, I) with article 2 quadrate, 4 with four antero-distal spines, 5 $1\frac{1}{2}$ times as wide as long, two groups of spines anteriorly, the proximal group of six spines and the distal group of five, also two groups of five and six spines on posterior margin, article 6 with three anterior fascicles of three, five and three spines and two posterior groups of four and three spines, dactyl broad, bearing two very strong spines in notches on its anterior border, below which it is minutely serrulate; pereiopods 4 and 5 not greatly expanded, posterior margin of article 2 bearing a few scattered plumose setae, dactyl bearing nodules on anterior margin.

First pleonal epimeron rounded postero-distally, second slightly produced, bearing long plumose setae on exterior surface, third pleonal epimeron strongly produced into an acute point above which it is bisinuate; uropods 1 and 2 with rami equal, unarmed; peduncle of uropod 3 (Fig. 5L) quadrate, rami broadly foliaceous, bearing long plumose setae marginally, outer ramus with a small article 2; telson (Fig. 5M) slightly exceeding peduncle of uropod 3, cleft to base, each lobe terminating in a single spine and a plumose seta.

Holotype: SAM A13211, male, 2.5 m.

Type-locality: NIWR/15D, 15 May 1972, 28°48'S/32°11'E, depth 16 m.

Female: Eyes of comparable size to those of the male, antenna 2 (Fig 5B) with 3-articulate flagellum, otherwise like male. The specimen figured measured 3 mm and was carrying four large ova.

Relationships: The greatly produced fourth coxa and the unusual dactyl of pereiopod 3 serve to diagnose this species. Only two other species, *Urothoe*

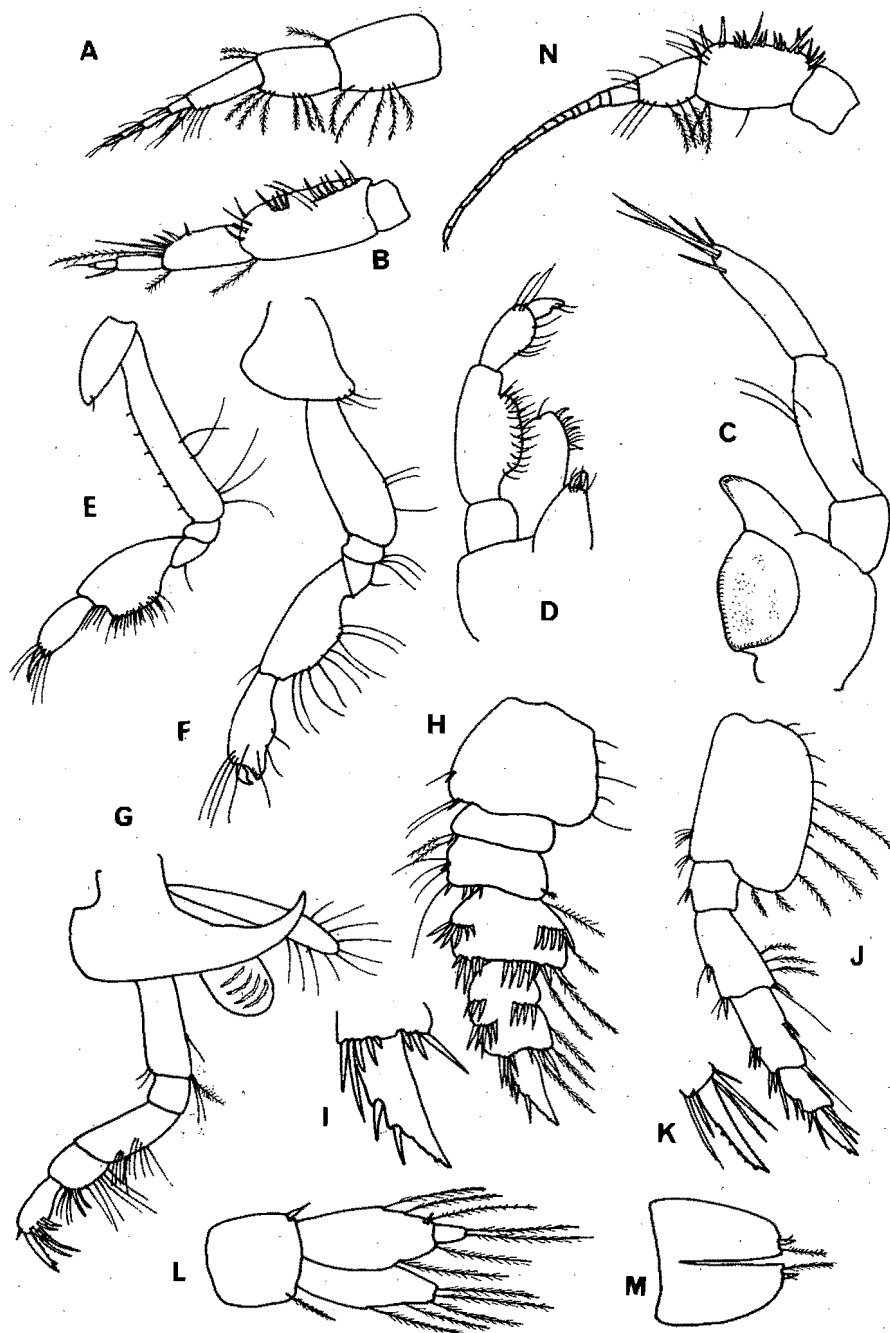


Fig. 5. *Urothoe coxalis*. n. sp.

Female, 3 mm; A—antenna 1; B—antenna 2; C—mandible; D—maxilliped; E—gnathopod 1; F—gnathopod 2; G—pereiopod 2; H—pereiopod 3; I—dactyl of pereiopod 3; J—pereiopod 5; K—dactyl of pereiopod 5; L—uropod 3; M—telson. Male, 2,5 mm: N—antenna 2.

grimaldii Chevreux, and *U. spinidigitus* Walker, have spinose dactyls on pereopod 3, but both bear more spines and lack the produced coxa 4 of *U. coxalis* n. sp.

Material: Single male and female from the type locality.

Urothoe elegans Bate, 1857

Urothoe elegans: Chevreux & Fage, 1925: 101, fig. 95.

Records: NIWR/1/14E(4), NIWR/1/27G(3), NIWR/UM/R3D(1), NIWR/UM/M3D(25), NIWR/2/23E(1), NIWR/2/27G(2), NIWR/2/30C(1), NIWR/2/32C(1), NIWR/2/33E(1).

Distribution: Atlantic and Indian Oceans.

Urothoe pinnata K. H. Barnard, 1955

Urothoe pinnata K. H. Barnard, 1955: 86, fig. 42.

Records: NIWR/2/20B(1).

Diagnosis: Antenna 1 of female with 6–8 articulate flagellum, accessory flagellum 5–6 articulate; article 6 of gnathopod 1 slightly expanded but simple; gnathopod 2 subchelate, palm rounded, dactyl equal to palm; pereopod 3 with article 2 oval, about $1\frac{1}{4}$ times as long as broad, article 5 twice as broad as long, 6 quadrate, dactyl narrow, minutely serrulate; article 2 of pereopod 5 about $1\frac{1}{2}$ times as long as broad.

Distribution: Endemic, Natal to False Bay.

Urothoe pulchella (Costa, 1853)

Urothoe pulchella: Chevreux & Fage, 1925: 99, fig. 92. K. H. Barnard, 1955: 83, fig. 41A.

Records: NIWR/1/5C(1), NIWR/1/13C(3), NIWR/2/17C(5).

Diagnosis: Antenna 1 of female with 5-articulate flagellum and 3-articulate accessory flagellum; gnathopod 1 very weakly subchelate, article 6 expanding distally; gnathopod 2 distinctly subchelate, palm transverse; article 5 of pereopod 3 about $1\frac{1}{3}$ times as wide as long, dactyl slender, not cultriform, minutely pectinate.

Distribution: Mediterranean, Atlantic, South Africa.

Urothoe serrulidactylus K. H. Barnard, 1955

Urothoe serrulidactylus K. H. Barnard, 1955: 85, fig. 41C. Ledoyer, 1969: 185, fig. 3.

Records: KOS 82G(8).

Diagnosis: Antenna 1 of female with 6–8 articulate flagellum and 3–6 articulate accessory flagellum; gnathopod 1 simple, article 6 elongate; gnathopod 2 with article 6 slightly expanded distally, palm transverse, defined by a single

spine; article 5 of pereopod 3 twice as wide as long, dactyl cultriform, broad, anterior margin distally serrate; article 2 of pereopod 5 subcircular.

Distribution: Natal, Madagascar.

Remarks: Rabindranath (1971) synonymized *Urothoe serrulidactylus* with *U. ruber* Giles but this is incorrect, as can be seen by comparing Rabindranath's figures with those of either K. H. Barnard (1955) or Ledoyer (1969). The dactyl of pereopod 3 in *serrulidactylus* is distinctly wide and cultriform and quite naked of setae, while that of *U. ruber* is very narrow, evenly tapering and bears a number of small setae. The palm of gnathopod 2 is also markedly chelate in *U. ruber* but more transverse in *serrulidactylus* and there are a number of differences in the minute structure of the mouth parts and antennae.

Urothoe tumorosa n. sp.

Fig. 6

Description of male (3.5 mm): Head as long as three pereon segments; eyes large, dark, separated dorsally by about $\frac{1}{3}$ of their diameter; antenna 1 (Fig 6A) with 6-articulate flagellum and 3-articulate accessory flagellum, peduncular articles subequal; antenna 2 (Fig 6K) as long as body, article 4 of peduncle heavily spinose, article 5 and flagellum bearing aesthatacs, flagellum 36-articulate; mandible with very large circular molar, incisor simple, heavily chitinized, palp 3-articulate, articles 2 and 3 subequal, each twice article 1; palp of maxilla 1 bi-articulate, tipped with three long plumose setae, outer plate terminally bearing about ten strong serrate spines; maxilla 2 normal; maxilliped bearing 4-articulate palp, article 3 expanding distally from a very narrow base, outer lobe distally bearing five spine teeth interspersed with fine setae, inner plate terminating in two spines and five short setae.

Coxa 1 triangular, remaining coxae subquadrate, not produced (cf. *U. coxalis* n. sp.), but each bearing a few setae postero-distally; gnathopods similar, subchelate; article 5 of gnathopod 1 bearing nine strong spines on distal margin, palm undefined, minutely pectinate; article 5 of gnathopod 2 lacking spines, palm defined by two short spines, minutely pectinate; articles 5 and 6 of pereopods 1 and 2 posteriorly strongly spinose, dactyl bearing 3-4 pronounced knobs; pereopod 3 strongly spinose (Fig 6F), a group of very long plumose setae arising from inner margin of article 4, articles 5 and 6 about as wide as long, bearing rows of strong blunt spines and occasional plumose setae, dactyl wide, evenly tapering, bearing about seven pronounced knobs on anterior margin; pereopod 4 with posterior margin of article 4 bearing plumose setae, dactyl with anterior knobs; pereopod 5 like 4 but lacking plumose setae and considerably shorter.

Pleonal epimera 1-3 postero-distally rounded, the second bearing a prominent group of long plumose setae which extend to the posterior end of the body; peduncle of uropod 1 setose and bearing a lateral and two distal

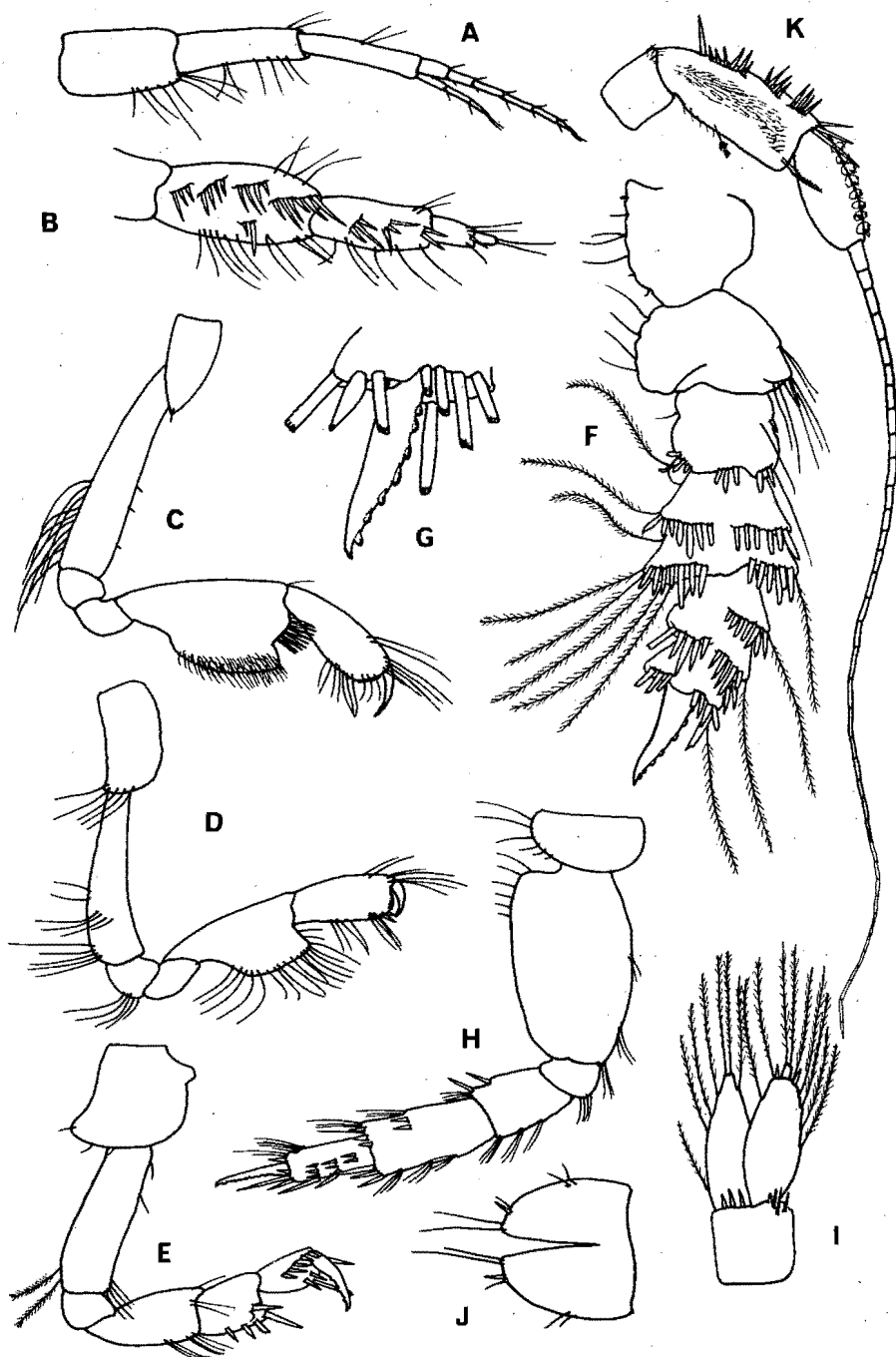


Fig. 6. *Urothoe tumorosa* n. sp.

Female, 3,5 mm: A—antenna 1; B—antenna 2; C—gnathopod 1; D—gnathopod 2; E—pereopod 2; F—pereopod 3; G—dactyl of pereopod 3; H—pereopod 5; I—uropod 3; J—telson.
Male 3,5 mm: K—antenna 2.

spines, outer ramus equal to peduncle and bearing a single mediodorsal spine, inner ramus naked, 80 per cent length of outer; uropod 2 half length of 1, peduncle with two strong distal spines, rami equal, unarmed; peduncle of uropod 3 quadrate, distally spinose, rami subequal, the outer with a minute second article, both rami marginally bearing plumose setae; telson (Fig. 6J) as long as broad, 80 per cent cleft, each lobe with a terminal spine and three setae and with two small lateral setae.

Holotype: SAM A13214, male, 3.5 mm.

Type-locality: NIWR/2/20A, 19 July 1972, 30°14'S/30°52'E, depth 44 m.

Female: Similar to the male except for the second antennae, which are much shorter than those of the male (Fig 6B), and the smaller third uropods (Fig 6I) which have fewer, shorter plumose setae than those of the male.

Relationships: The marked protuberances on the dactyls, particularly that of pereopod 3, are sufficient to identify this species. Stebbing (1906) quotes two other species, *U. marina* (Bate), and *U. irrostrata* Dana as possessing nodulose dactyls, but fuller descriptions of these species in Chevreux & Fage (1925) and Della Valle (1893) respectively show the dactyls to be minutely serrulate in both cases.

Material: NIWR/UM/M2B(1), NIWR/2/20A(2), NIWR/2/33D(1).

Family Isaeidae

Cheiriphotis megacheles (Giles, 1885)

Cheiriphotis durbanensis K. H. Barnard, 1916: 247.

Cheiriphotis megacheles: J. L. Barnard, 1962a: 17, fig. 4.

Records: Durban Bay (K. H. Barnard 1916 as *C. durbanensis*); Durban (Stebbing 1918).

Distribution: Indo-Pacific.

Chevalia aviculae Walker, 1904

Chevalia aviculae: J. L. Barnard, 1971: 88, fig. 42.

Records: NAD 16N(7); NIWR/UM/D3B(1), NIWR/UM/P1B(1), NIWR/2/36H(4).

Distribution: Circumtropical and warm temperate.

Gammaropsis afra (Stebbing, 1888)

Gammaropsis afra: J. L. Barnard, 1970b: 170, fig. 108.

Records: 29/31/430 m (J. L. Barnard 1961).

Distribution: Almost circumtropical.

Gammaropsis atlantica (Stebbing, 1888) **new synonymy**

Eurystheus imminens K. H. Barnard, 1916: 250; 1937: 165, fig. 11.

Gammaropsis atlantica: J. L. Barnard, 1970b: 174, figs 111–113.

Records: NIWR/1/26F(1), NIWR/UM/D3A(1), NIWR/UM/R3B(1), NIWR/2/24E(3), NIWR/2/30M(5), NIWR/2/36B(13); ABD 8Q(2); NAD 4S(2), NAD 11R(11), NAD 19G(10), NAD 56A(41), NAD 61A(1), NAD 64F(6), NAD 66R(3), NAD 70V(2), NAD 81H(1), NAD 90T(22), NAD 92N(7), NAD 92 (P); 'Morewood cove' 50 m (K. H. Barnard 1916 as *E. imminens*).

Distribution: Almost circumtropical.

Remarks: K. H. Barnard (1916) erected *G. imminens* on the basis of two characters—the relative sizes of the palmar teeth of gnathopod 2 male, and the shape of the eyes ('elongate oval'). I have examined his type material and find the eyes to be of a shape consistent with those of *G. atlantica* from the same area (vertically elongate but not markedly constricted dorsally). Although the relative size of the palmar teeth is unusual their general shape is consistent with *G. atlantica*, and this cannot be regarded as taxonomically significant in the light of the variability of *G. atlantica* which has been demonstrated in recent years (e.g. J. L. Barnard 1970b). Moreover, the fact that the specimens were found amongst samples of *G. atlantica* suggests that they merely represent aberrations of the normal form.

Gammaropsis chelifera (Chevreux, 1901)

Eurystheus semichelatus K. H. Barnard, 1957: 8, fig. 5.

Gammaropsis chelifera: Ledoyer, 1972: 239, pl. 54A.

Gammaropsis semichelatus: Griffiths, 1972: 290.

Records: NA 191J(8).

Distribution: Indian Ocean.

Gammaropsis holmesi (Stebbing, 1908) **new synonymy**

Eurystheus holmesi Stebbing, 1908: 85, pl. 14A. K. H. Barnard, 1955: 95, figs 48 A–D.

Eurystheus semidentatus K. H. Barnard, 1916: 250, pl. 28, figs 13, 14.

Records: NAD 7D(2), NAD 19Q(14); Durban (Stebbing 1918).

Diagnosis: Gnathopod 2 powerful, hind margin much shorter than oblique, dentate palm, palm defined by a small tooth; hind margins of article 2 of pereopods 3–5 strongly serrate posteriorly; pleon segment 4 dorsally tridentate, median tooth the smallest, segment 5 with a pair of dorso-lateral teeth.

Distribution: Endemic, Natal to Saldanha Bay.

Remarks: As originally described by K. H. Barnard (1916), *G. semidentatus* could be distinguished from *G. holmesi* by the less marked and more regular serrations along the posterior margin of article 2 of pereopods 3–5, and by differences in the teeth of the palm of gnathopod 2. However it has since been

found that Stebbing's original material was unusually well developed as regards these features, the usual form of *G. holmesi* being described and figured by K. H. Barnard (1955). As can be seen by comparing these figures with those depicting *semidentatus*, the two species have become indistinguishable, *holmesi* merely representing a more highly developed phenotype of *semidentatus*. Since *holmesi* has preference, *semidentatus* thus falls into synonymy with it.

Photis longimanus Walker, 1904

Photis longimanus: K. H. Barnard, 1916: 244. Sivaprakasam, 1970: 567, fig. 8.

Records: Durban Bay (K. H. Barnard 1916).

Distribution: Indian Ocean, extending to South West Africa.

Photis kapapa J. L. Barnard, 1970

Photis kapapa J. L. Barnard, 1970b: 192, figs 124, 125.

Records: NIWR/UM/R3C(5), NIWR/2/27H(3), NIWR/2/33F(3); NAD 19E(23), NAD 56D(2), NAD 64G(1).

Distribution: Hawaii, east coast of southern Africa.

Photis uncinata K. H. Barnard, 1932

Photis longicaudata: K. H. Barnard, 1916: 243, pl. 28, fig. 26.

Photis uncinata K. H. Barnard, 1932: 223, fig. 138.

Records: NIWR/1/6B(1), NIWR/1/14D(2), NIWR/UM/D3C(1), NIWR/2/22B(1); 29/31/50 m, 'Morewood Cove' 50 m (K. H. Barnard 1916).

Diagnosis: Articles 5 and 6 of gnathopod 1 subequal, palm very oblique, faintly denticulate; article 2 of gnathopods 1 and 2 antero-distally terminating in a small curved acute process tipped by two setae; article 6 of gnathopod 2 oblong, defining angle rectangular, slightly produced, palm nodulose, dactyl serrate; outer ramus of uropod 3 very small.

Distribution: Endemic to South Africa.

Family **Ischyroceridae**

Ischyrocerus anguipes Kröyer, 1838

Ischyrocerus anguipes: Schellenberg, 1953: 120, fig. 7A-C.

Records: NIWR/3/30S(1), NIWR/2/35C(1).

Distribution: Atlantic, Indo-Pacific.

Jassa falcata (Montagu, 1808)

Jassa falcata: Sexton & Reid, 1951: 30-47, pls 4-30. J. L. Barnard, 1969a: 155, figs 38, 39.

Records: DBN 131P(1); D 276(2); NA 244F(23).

Distribution: Cosmopolitan.

Family **Leucothoidae***Leucothoe ctenochir* K. H. Barnard, 1925

Leucothoe ctenochir K. H. Barnard, 1925: 342, pl. 34, fig. 8.

Records: NAD 4P(7); Port Shepstone (K. H. Barnard 1925).

Diagnosis: Readily identified by the form of the palm of gnathopod 2 which is cut into five or six regular comb-like teeth, the tooth nearest the finger-hinge obscurely bifid; third pleonal epimeron postero-distally subquadrate, lacking a posterior sinus; antenna 1 extending to pereon segment 3.

Distribution: Endemic to east coast of South Africa.

Leucothoe dolichoceras K. H. Barnard, 1916

Leucothoe dolichoceras K. H. Barnard, 1916: 157, pl. 26, fig. 14; 1925: 343.

Records: NIWR/2/36Q(1); NAD 4Q(1).

Diagnosis: Antenna 1 extending to pleon segment 3 (unusually long); article 6 of gnathopod 1 long and narrow, palm with two large blunt-tipped tubercles near finger-hinge, a third proximal to them and a series of small denticles near defining angle; dactyl equal to palm, a deep semicircular incision bounded by a denticle near its base (this form of gnathopod 2 only fully developed in specimens over 8 mm); third pleonal epimeron acutely produced with a deep sinus above postero-distal corner.

Distribution: Endemic to South Africa.

Leucothoe richiardi Lessona, 1865

Leucothoe richiardi: Sivaprakasam, 1967: 385, fig. 2.

Records: NAD 4R(6).

Diagnosis: Antenna 1 extending to pereon segment 3; article 6 of gnathopod 2 elongate oval, palm convex, denticulate distally; third pleonal epimeron postero-distally acute, a sinus above corner (obscure in females).

Distribution: Mediterranean, India, South Africa.

Leucothoe spinicarpa (Abildgaard, 1789)

Leucothoe spinicarpa: K. H. Barnard, 1916: 148. Sivaprakasam 1967: 384, fig. 1.

Records: NIWR/3/24F(4); NAD 90U(22); NA 243B(1); 30/30/50 m (K. H. Barnard 1916).

Distribution: Cosmopolitan.

Family **Liljeborgiidae***Liljeborgia epistomata* K. H. Barnard, 1932*Liljeborgia epistomata* K. H. Barnard, 1932: 144, fig. 83; 1955: 89, fig. 44.*Records*: NAD 15M(2).

Diagnosis: The male differs considerably from the female and is relatively rare. Male coxa 1 ovoid, enormously enlarged; article 6 of gnathopod 2 $1\frac{1}{2}$ times as long as broad, palm oblique, sinuous, a prominent bilobed tooth near finger-hinge, dactyl with 7-8 large serrations, closing into a shallow pit on inner surface of hand which is armed by three spines. Female coxa 1 normal, gnathopod 2 palm not toothed. Both sexes lack eyes and dorsal teeth on pleon segment 1; pleon segments 2, 4 and 5 have single medio-dorsal teeth, those of segments 4 and 5 forming the termination of medio-dorsal keels.

Distribution: Endemic, Saldanha Bay to Natal.Family **Lysianassidae***Amaryllis macrophthalma* Haswell, 1880*Amaryllis macrophthalma*: J. L. Barnard, 1972: 262, figs 156-158.

Records: NIWR/1/26C(1), NIWR/1/27D(1), NIWR/UM/M3C(2), NIWR/2/17B(2), NIWR/2/32B(8), NIWR/2/36C(13); NA 205J(1); 30/30/50 m, 29/31/100 m (K. H. Barnard 1916).

Distribution: Southern Hemisphere.*Hippomedon longimanus* (Stebbing, 1888)*Hippomedon longimanus* Stebbing, 1888: 643, pl. 12. K. H. Barnard, 1916: 125.*Records*: 29/31/80 m (K. H. Barnard 1916).

Diagnosis: Eyes absent; article 1 of antenna 1 longer than articles 2 plus 3, article 1 of flagellum elongate; gnathopods 1 and 2 long and slender, article 5 longer than 6; pleon segment 4 dorsally depressed anteriorly and posteriorly carinate; third pleonal epimeron with a short point postero-inferiorly; telson 60 per cent cleft, apices somewhat divergent, each ending in a spine.

Distribution: Atlantic, extending to Natal.*Hippomedon onconotus* (Stebbing, 1908)*Tryphosa onconotus* Stebbing, 1908: 65, pl. 35.*Records*: NIWR/UM/M1B(1).

Diagnosis: Eyes absent; article 1 of antenna 1 as long as 2 plus 3; article 5 of gnathopods 1 and 2 longer than article 6; pleon segment 4 with a deep dorsal depression followed by an upturned acute triangular process; third pleonal

epimeron smoothly rounded; telson 80 per cent cleft, each lobe with an apical and a lateral spine and two proximal setae.

Distribution: Endemic to South Africa.

Lysianassa ceratina (Walker, 1889)

Lysianassa cubensis: K. H. Barnard, 1916: 120.

Lysianassa ceratina: Chevreux & Fage, 1925: 42, fig. 23.

Records: NIWR/1/27J(2), NIWR/2/27C(4), NIWR/2/30A(6); NA 244H(3), G 15N; M 19E.

Distribution: Mediterranean, Atlantic, Indian Ocean.

Lysianassa variagata (Stimpson, 1855)

Lysianassa variagata: Stebbing, 1888: 682, pl. 23.

Records: NAD 4M(2), NAD 81K(3).

Distribution: Africa south of the equator.

Microlysias xenoceras Stebbing, 1918

Microlysias xenoceras Stebbing, 1918: 64, pl. 9.

Records: Durban (Stebbing 1918).

Distribution: Endemic, Durban to Plettenberg Bay.

Trischizostoma remipes Stebbing, 1908

Trischizostoma remipes Stebbing, 1908: 61, pl. 34. K. H. Barnard, 1925: 321.

Records: NAD 11S(1).

Diagnosis: Article 6 of gnathopod 1 very large, showing some torsion, palm elongate, evenly convex, minutely serrulate, dactyl curved, inner margin smooth; eyes very large, nearly meeting on top of head; rostrum small; accessory flagellum of antenna 1 of a single laminar joint followed by a short linear one; article 6 of pereopod 5 slightly longer and wider than 5, forming a narrow blade-like lamina; telson 40 per cent cleft.

Distribution: Endemic, Natal to False Bay.

Trischizostoma serratum K. H. Barnard, 1925

Trischizostoma serratum K. H. Barnard, 1925: 320, pl. 34, fig. 1.

Records: 'Various localities on Natal coast' (K. H. Barnard 1925).

Diagnosis: Close to *T. remipes* but differing in the form of gnathopod 1 which has a straight or concave palm with defining angle produced into a blunt point with 1 or 2 stout blunt spines, palm entire, armed with seven stout marginal

and five submarginal spines, inner margin of dactyl with a series of conical denticles at regular intervals.

Distribution: Endemic, Natal to False Bay

Tryphosella normalis K. H. Barnard, 1955

Tryphosella normalis K. H. Barnard, 1955: 80, fig. 39.

Records: NIWR/1/26E(2), NIWR/1/27H(6), NIWR/UM/PrD(1), NIWR/2/30D(2).

Distribution: Endemic, Natal to South West Africa.

Uristes natalensis K. H. Barnard, 1916

Uristes natalensis K. H. Barnard, 1916: 126.

Records: Port Shepstone (K. H. Barnard 1916).

Diagnosis: Coxa 1 widening distally, oblong, not greatly reduced; pleon segment 4 somewhat depressed basally but neither carinate nor produced; telson oblong, apices divergent.

Distribution: Endemic to east coast of South Africa.

Family **Ochlesidae**

Ochlesis lenticulosus K. H. Barnard, 1940

Ochlesis lenticulosus K. H. Barnard, 1940: 447, fig. 23.

Records: NIWR/2/30T(1).

Diagnosis: Pereon and pleon dorsally carinate, the carinae of pereon segment 7 and pleon segments 1 and 2 produced posteriorly into a blunt dorsal projection, pleon segment 3 with an upstanding triangular projection about the middle of its length; third pleonal epimeron postero-distally produced into a sharply upturned tooth; lower distal margins of articles 1 and 2 of antenna 1 produced into spinose projections.

Distribution: Endemic, Natal to False Bay.

Family **Phliantidae**

Palinnotus natalensis K. H. Barnard, 1940

Palinnotus natalensis K. H. Barnard, 1940: 445, fig. 22.

Records: D 279; Isipingo (K. H. Barnard 1940); Port Shepstone (K. H. Barnard 1955).

Diagnosis: Body dorsally depressed, coxae splayed; article 2 of pereopod 5 strongly expanded, as wide as long in adults; article 4 distally strongly lobed; uropod 3 lacking rami.

Distribution: Natal, India.

Family **Phoxocephalidae***Mandibulophoxus stimpsoni* (Stebbing, 1908)*Pontharpinia stimpsoni* Stebbing, 1908: 75, pl. 11.*Mandibulophoxus stimpsoni*: J. L. Barnard, 1957: 436-438, figs 3, 4.

Records: NIWR/1/5A(2), NIWR/1/14F(1), NIWR/1/24A(1), NIWR/1/26A(8), NIWR/1/27A(5), NIWR/UM/R3E(1), NIWR/UM/P5B(1), NIWR/UM/M1A(2), NIWR/UM/M2A(3), NIWR/UM/M3A(3), NIWR/2/17A(3), NIWR/2/19A(1), NIWR/2/21F(1), NIWR/2/22A(1), NIWR/2/23A(2), NIWR/2/27B(5), NIWR/2/29A(1), NIWR/2/30B(5), NIWR/2/32A(1), NIWR/2/33A(4), NIWR/2/35A(2), NIWR/2/36A(1); NAD 27C(1).

Diagnosis: Eyes present; rostrum extending beyond tip of peduncle of antenna 1, apex drawn out into a curved downturned point; third pleonal epimeron with an oblique setal row on its exterior surface; rami of uropods 1 and 2 dorsally and apically spinose; telson cleft to base.

Distribution: West and southern Africa.

Family **Podoceridae***Laetmatophilus durbanensis* K. H. Barnard, 1916*Laetmatophilus durbanensis* K. H. Barnard, 1916: 275.

Records: Durban Bay (K. H. Barnard 1916).

Diagnosis: Pereon transversely ridged; gnathopod 1 with article 6 not at all widened, narrower than article 5, palm smooth, not defined from hind margin; article 2 of gnathopod 2 male with two anterior keels, both apically acute, article 6 broadly ovate, palm straight, with a low denticulate process extending from the finger-hinge about $\frac{1}{3}$ way along the palm and a pointed tooth proximal to it, dactyl nearly straight, matching palm.

Distribution: The above record is the only one to date.

Laetmatophilus purus Stebbing, 1888*Laetmatophilus purus* Stebbing, 1888: 1198, pl. 132.

Records: NIWR/2/30E(18).

Distribution: Endemic, South West Africa to Moçambique.

Laetmatophilus tridens K. H. Barnard, 1916*Laetmatophilus tridens* K. H. Barnard, 1916: 275, pl. 28, fig. 22.

Records: NAD 15L(1).

Distribution: Endemic, Moçambique to Saldanha Bay.

Podocerus africanus K. H. Barnard, 1916

Podocerus africanus K. H. Barnard, 1916: 278, pl. 28, figs 24-25; 1937: 176, fig. 19.

Records: NA 244D(30); Port Shepstone (K. H. Barnard 1925).

Distribution: Arabia, Natal to South West Africa.

Podocerus brasiliensis (Dana, 1853)

Podocerus brasiliensis: J. L. Barnard, 1970: 237, figs 156-157.

Records: DBN 2W(15), DBN 62J(C), DBN 131J(A), DBN 131K(1), DBN 251C(C), DBN 271F(2), DBN 379D(P); Durban Bay (K. H. Barnard 1916 as *P. synapochir*).

Diagnosis: Body lacking dorsal processes; coxa 1 weakly produced forwards, apically rounded; male gnathopod 2 with article 2 not anteriorly keeled, obscurely lobed distally, palm occupying whole posterior margin of article 6, undefined and smooth except for a slight distal bulge, dactyl half length of palm; peduncles and inner rami of uropods 1 and 2 moderately and irregularly spinose.

Distribution: Cosmopolitan in tropical and temperate seas.

Podocerus inconspicuus (Stebbing, 1888)

Podocerus palinuri K. H. Barnard, 1916: 277, pl. 28, fig. 23.

Podocerus inconspicuus: Nagata, 1965: 322, fig. 43.

Records: NIWR/2/19A(1); NA 191H(1); Durban (Stebbing 1918).

Distribution: Indo-Pacific, extending along west coast of South Africa.

Podocerus multispinis K. H. Barnard, 1925

Podocerus multispinis K. H. Barnard, 1925: 367, pl. 34, fig. 18.

Records: NAD 4V(2).

Diagnosis: Body not dorsally keeled but bearing two transverse rows of 3 spiniform tubercles on segment 1 and a single row on each of segment 2-7; coxa 1 produced forwards to level of the eye, apically acute; male gnathopod 2 with article 2 strongly keeled on inner and outer anterior margins, both keels ending in rounded setiferous lobes; palm 60% length of article 6, defined by a strong conical tooth, an obscure bifid tooth halfway along the palm and another square topped tooth near the finger-hinge, dactyl almost as long as palm; inner margins of peduncles and inner ramis of uropods 1 and 2 with comb-like rows of closely set spines.

Distribution: Endemic, Natal to Saldanha Bay.

Family **Stenothoidae***Proboloides rotunda* (Stebbing, 1917)

Metopa rotundus Stebbing, 1917: 39, pl. 7A.

Proboloides rotunda: K. H. Barnard, 1940: 444.

Records: NIWR/2/30P(1), NIWR/2/36N(11); NAD 19M(1).

Diagnosis: Body round; flagellum of antenna 1 and 2 shorter than peduncle, accessory flagellum absent; article 6 of gnathopod 1 parallel-sided, twice as long as broad, palm smooth, oblique; gnathopod 2 much larger than 1, palm oblique, convex, serrate near finger-hinge then abruptly stepped to form a cavity within which the dactyl closes; article 4 of pereopods 4 and 5 produced posteriorly into an acute lobe extending to the end of article 5; peduncle of uropod 3 longer than ramus, article 1 of ramus longer than spiniform second article.

Distribution: Endemic to South Africa.

Stenothoe gallensis Walker, 1904

Stenothoe gallensis: K. H. Barnard, 1925: 344. J. L. Barnard, 1955: 3, fig. 1; 1971: 120, figs 62-63.

Records: NAD 17Q(1); Durban (K. H. Barnard 1916); Port Shepstone (K. H. Barnard 1925).

Distribution: Cosmopolitan.

Remarks: K. H. Barnard's (1925) identification was queried by J. L. Barnard (1955) on the basis of the shape of uropod 3. I have examined the single male K. H. Barnard (1925) referred to, but find the third uropods to be missing. However, other material from South Africa conforms with his description, the third uropod differing from the usual form (figured in J. L. Barnard 1971) in that article 2 of the ramus is proximally almost circular and has an almost straight distal process arising from the superior half of its distal margin, the process is ridged in the usual pattern for the species. The process is *not* demarcated in any way from the proximal part of the article. Although the shape of the third uropod is unusual, I feel that in the light of increasing variability which has been found in this species, and its relative *S. valida* Dana, in recent years, it would be unwise to erect a new species for this form.

Stenothoe valida Dana, 1853

Stenothoe valida: Sivaprakasam, 1967: 373, fig. 2 a-b. J. L. Barnard, 1970b: 250, fig. 165.

Records: DBN 2U(C), DBN 62H(C), DBN 131M(P), DBN 251G(1), DBN 379C(P), DBN 396E(P); Durban (K. H. Barnard 1925).

Distribution: Cosmopolitan in tropical and temperate seas.

Family **Synopiidae***Tiron australis* Stebbing, 1908

Tiron australis Stebbing, 1908: 79, pl. 38.

Records: NIWR/2/20C(1), NIWR/2/36S(2).

Diagnosis: Accessory eye of four ommatidea; mandible with 3-articulate palp; inner plate of maxilla 2 with a medial submarginal row of setae; dactyls of pereopods stubby but apically sharp; article 2 of pereopods 4 and 5 not strongly setose, that of 5 crenulate posteriorly; pleonites 1-3 dorsally crenulate; each lobe of telson with a median row of large spines.

Distribution: Endemic to east and south coasts of South Africa.

Superfamily TALITROIDEA

Family **Hyaletellidae***Afrochiltonia capensis* (K. H. Barnard, 1916)

Chiltonia capensis K. H. Barnard, 1916: 224, pl. 27, figs 38-40.

Afrochiltonia capensis: K. H. Barnard, 1955: 93.

Records: STL 89G(A), STL 102C(C); KOS 62B(3), KOS 74G(5), KOS 78H(6), KOS 81E(1), KOS 82F(1); RHB 129Q(2); UMK 19W(C), UMK 23W(2), UMK 25C(P), UMK 26H(C), UMK 27N(C), UMK 29A(A); EDW 3B(C).

Diagnosis: Since the genus is monotypic the generic characters diagnose the species. Habitat estuarine and brack water; maxilla 1 lacking palp; gnathopods of both sexes subchelate; male gnathopod 2 not larger than gnathopod 1; female gnathopod 2 like gnathopod 1; male pleopod 1 normal; uropod 3 lacking rami; telson entire.

Distribution: Endemic, Zululand to Saldanha Bay.

Parhyalella natalensis (Stebbing, 1917)

Exhyalella natalensis: Stebbing, 1918: 67, pl. 11.

Parhyalella natalensis: K. H. Barnard, 1925: 359.

Records: Durban (Stebbing 1918; K. H. Barnard 1925).

Diagnosis: Flagellum of antenna 1 and 2 at least as long as peduncle; article 5 of gnathopod 1 male larger than 6; article 5 of gnathopod 2 male with a narrow posterior lobe intervening between articles 4 and 6, palm oblique, elongate, spine fringed, having a very short hind margin; uropod 3 very small, peduncle much larger than ramus; telson entire.

Distribution: Not recorded outside Durban.

Family **Hyalidae***Hyale grandicornis* (Kröyer, 1845)

Hyale grandicornis: Stephensen, 1949: 33, figs 14, 15.

Records: G 15F; V 28L; D 118; M 19H; NA 243C(1), NA 244G(18); Port Shepstone, Isipingo, Port Edward (K. H. Barnard 1955).

Distribution: Cosmopolitan in tropical and temperate seas.

Family **Talitridae***Orchestia ancheidos* (K. H. Barnard, 1916)

Talorchestia ancheidos K. H. Barnard, 1916: 221, pl. 27, figs 35, 36.

Orchestia ancheidos: Ruffo, 1958: 43, figs 3, 4.

Records: STL 11D(4), STL 18D, STL 52G, STL 67B, STL 73A, STL 77A, STL 135B(2), STL 148B(8), STL 171A(2), STL 232D, STL 270B, STL 299R(2), STL 317D(2), STL 342G(A), STL 343J(5), STL 344; KOS 6A(A), KOS 15A(2), KOS 78G(3); RHB 38A(15), RHB 93A(3), RHB 132D(20); UMK 24N; SHP 5B(C); Umlalazi estuary (Hill 1966).

Distribution: Madagascar, Moçambique, South Africa.

Orchestia rectipalma (K. H. Barnard, 1940)

Parorchestia rectipalma K. H. Barnard, 1940: 473, fig. 32.

Records: STL 89F(A), STL 102D(1); RHB 124N(1), RHB 129C(3); EDW 3A(C); UMK 19F, UMK 29C(P), UMK 33C(8).

Distribution: Endemic; Natal to South West Africa.

Suborder **CAPRELLIDEA**Family **Aeginellidae***Metaprotella macrodactylos* Stebbing, 1910

Metaprotella macrodactylos Stebbing, 1910: 469, pl. 48A.

Records: NIWR/2/30K(1).

Diagnosis: Last two thoracic segments distinct but not movable upon each other; head bearing an acute forward-directed process, rest of the body lacking dorsal processes; pereopods 1 and 2 minute, less than $\frac{1}{4}$ length of branchiae; second gnathopods large, hand very long and bearing a pronounced acute tooth on the palm near the articulation of the dactyl, dactyl extending whole length of hand.

Distribution: Endemic, this is only the second record of this species, the first being from the Port Elizabeth area.

Monoliropus falcimanus Mayer, 1904

Monoliropus falcimanus: Sivaprakasam, 1967: 382, fig. 4G-H.

Records: ABD 14K(1).

Distribution: Indian Ocean.

Pseudaeginella tristanensis (Stebbing, 1888)

Pseudaeginella tristanensis: Stephensen, 1949: 52, fig. 23.

Records: NIWR/2/30U(1); NA 244B(1).

Diagnosis: Branchiae on pereon segments 2 and 3; pereopods 1 and 2 absent, pereopod 3 6-articulate; abdomen lacking appendages; pereon segment 1 with a large upright antero-dorsal tooth and a smaller posterior one, segments 2-4 each with three dorsal tubercles, the largest in the centre of the segments, the others sometimes obscure; gnathopod 2 with a small acute tooth half way along the palm and two smaller rounded teeth distally.

Distribution: Tristan da Cunha, South Africa.

Family **Caprellidae***Caprella cicur* Mayer, 1903

Caprella cicur Mayer, 1903: 75, 97, pl. 4, figs 5-7, pl. 8, figs 3-5.

Records: G 15K; U 28H; J 11C.

Diagnosis: Head with short rostral point; basis of gnathopod 2 shorter than pereon segment 2, outer margin anteriorly keeled, the keel ending in an acute point; a spine ventrally between the insertions of gnathopod 2, hand of male gnathopod 2 elongate, palm defined by an acute forward directed process, a triangular tooth near finger-hinge.

Distribution: Endemic, Natal to west coast of South Africa.

Caprella danilevski Czerniavski, 1868

Caprella danilevskii: Chevreux & Fage, 1925: 454, fig. 432. McCain, 1968: 22-25, figs 10-11.

Records: J 11C.

Distribution: Widespread in tropical seas.

Caprella equilibra Say, 1818

Caprella equilibra: McCain, 1968: 25-30, figs 12-13.

Records: DBN 2X(A), DBN 131C(P), DBN 241 W(1), DBN 251A(A), DBN 379A(C), DBN 396F(C); NAD 15J(6); Durban (K. H. Barnard 1916).

Distribution: Cosmopolitan, 0-300 m.

Caprella laevipes Mayer, 1903

Caprella laevipes Mayer, 1903: 108, pl. 5, fig. 2, pl. 8, figs 14-16.

Records: 'Port Natal' (= Durban, Mayer 1903).

Diagnosis: Head with large anteriorly directed rostral spine; basis of gnathopod 2 longer than pereon segment 2; no spine between insertions of second gnathopods, hand elongate and expanding distally in adult males, palm with two strong teeth and a distal rectangular projection; pereopods 5-7 lacking grasping spines (distinguishing the species from *C. scaura*).

Distribution: Endemic, Natal to west coast of South Africa.

Caprella natalensis Mayer, 1903.

Caprella acutifrons var. *natalensis*: Mayer, 1903: 81, pl. 3, figs 22, 23.

Caprella penantis (non Leach, 1814): Stebbing, 1910: 465.

Caprella penantis var. *natalensis*: K. H. Barnard, 1916: 281.

Caprella angusta: Laubitz, 1970: 40, fig. 11.

Caprella natalensis: Laubitz, 1972: 47, pl. 9, figs F,G, pl. 10, figs F-K.

Records: Durban (Mayer 1903; K. H. Barnard 1916).

Diagnosis: Head with anteriorly directed rostrum; basis of gnathopod 2 shorter than pereon segment 2; no spine between insertions of second gnathopods, hand twice as long as broad, palm sparsely setose with proximal poison tooth and distal rectangular projection.

Distribution: Pacific North America, Tristan de Cunha, South Africa.

Remarks: This form was originally described by Mayer as one of twenty varieties of *C. acutifrons* which he recognized. These varieties were analysed by McCain (1968) who assigned eight of them including var. *natalensis*, to *C. penantis*. Laubitz (1970) subsequently elevated one of these eight, *C. angusta*, to specific level but then (1972) synonymized this with a newly elevated *C. natalensis*. This species can be distinguished from *C. penantis* by its long pereonite 5 (as long as 6+7) and the sparse setification of the palm of gnathopod 2, as well as the absence of pleura, which are usually well developed in adult *C. penantis*.

Caprella penantis Leach, 1814

Caprella penantis: McCain, 1968: 33-40, figs 15-16.

Records: D 272; NA 244A (26).

Distribution: Cosmopolitan in tropical and temperate seas.

Caprella scaura Templeton, 1836

Caprella scaura: McCain, 1968: 40-44, figs 17-18.

Records: DBN 131E(1).

Distribution: Cosmopolitan.

Paracaprella pusilla Mayer, 1890

Paracaprella pusilla: McCain, 1968: 82-86, figs. 32 a-b, 41, 42, 53.

Records: DBN 131D(1).

Diagnosis: Mandibular palp absent; antero-ventral margin of male pereon segment 2 acutely produced forwards; basis of gnathopod 2 short, a distinct hump on posterior margin near origin, palm with proximal grasping spine followed by a tooth, a pronounced excavation midway along palm; pereopods 1 and 2 2-articulate; pereopod 3 6-articulate.

Distribution: Cosmopolitan in tropical and temperate seas.

Family **Cyamidae***Cymus balaenopterae* K. H. Barnard, 1931

Cymus balaenopterae: K. H. Barnard, 1932: 309, fig. 171.

Records: Ectoparasitic on a fin whale, Durban (K. H. Barnard 1932).

Diagnosis: Maxilliped with palp; body narrow in dorsal view, parallel sided in male, ovate in female; pereon segment 1 completely fused with head, pereon segment 2 not laterally hooked; branchiae on segments 3 and 4 single, about as long as segments 2 and 3, male branchiae with single short pointed accessory gills; male with a pair of ventral tubercles on each of pereon segments 6 and 7; female with a pair of oblong ventral processes on segment 5, and a pair of tubercles on each of segments 6 and 7.

Distribution: Widespread on fin whales and blue whales.

Cymus boopis Lutken, 1873

Paracyamus boopis: K. H. Barnard, 1932: 312.

Cymus boopis: Margolis, 1955: 124, figs 7-12.

Records: Ectoparasitic on humpback and sperm whales, Durban (K. H. Barnard 1932).

Diagnosis: Maxillipedal palps absent, body ovate (but more slender than *C. erraticus*) pereon segment 2 not postero-laterally hooked; branchiae single with the bifurcate accessory gills in male shorter than pereon segments 2-5; male with one pair of ventral spines on each pereon segments 5-7, female with 2 pairs on segment 5 and one pair each on 6 and 7.

Distribution: Widespread on humpback whales.

Cymus erraticus Roussel de Vauzème, 1834

Paracyamus erraticus: K. H. Barnard, 1932: 310, fig. 172.

Cymus erraticus: Margolis, 1955: 132, figs 1-6.

Records: Humpback whale, Durban (Stebbing 1910).

Diagnosis: Maxilliped with or without palps; body broadly ovate, pereon segment 2 postero-laterally produced into a forwardly directed hooked process; branchiae single, as long as pereon segments 2-7 and with small bifid accessory lobe in adult male; male with 2 pairs of ventral spines on segments 5 and 6 and a single pair on 7, female with a single pair of spines on segments 5 and 7 and two pairs on 6.

Distribution: Widespread on right whales.

Family **Phtisicidae**

Phtisica marina Slabber, 1769

Phtisica marina: K. H. Barnard, 1916: 283. McCain, 1968: 91-97, fig. 46.

Records: 30/30/80 m (K. H. Barnard 1916).

Distribution: Principally Atlantic but extending to Moçambique, Mediterranean and Black Sea.

Caprellina longicollis (Nicolet, 1849)

Caprella longicollis: McCain, 1969: 289, fig. 2.

Records: DBN 404A(C).

Distribution: Southern oceans, Mediterranean.

Subfamily **Phtisicinae**

Chaka n. gen.

Diagnosis: Flagellum of antenna 2 tri-articulate, swimming setae present; mandible with 3-articulate palp, setal formula of terminal article 1-X-1, molar absent; outer lobe of maxilliped equal to inner lobe; gills on pereonites 2-4; pereopods 1 and 2 fully developed, pereopod 3 tri-articulate; abdomen of male and female with two pairs of bi-articulate appendages.

Type-species: *Chaka leoni* n. sp.

Relationships: The configuration of the pereopods in this genus is unique. Other genera in the subfamily *Phtisicinae* have five or six-articulate third pereopods, while genera in the subfamily *Dodecadinae* have pereopods 1 and 2 more or less reduced.

Chaka leoni n. sp.

Figs 7, 8

Description of male (11 mm): Head produced into a short flat-lying process (Fig. 7A), antenna 1 about as long as first five pereon segments, flagellum less than half peduncle, 11-articulate; antenna 2 shorter than peduncle of antenna

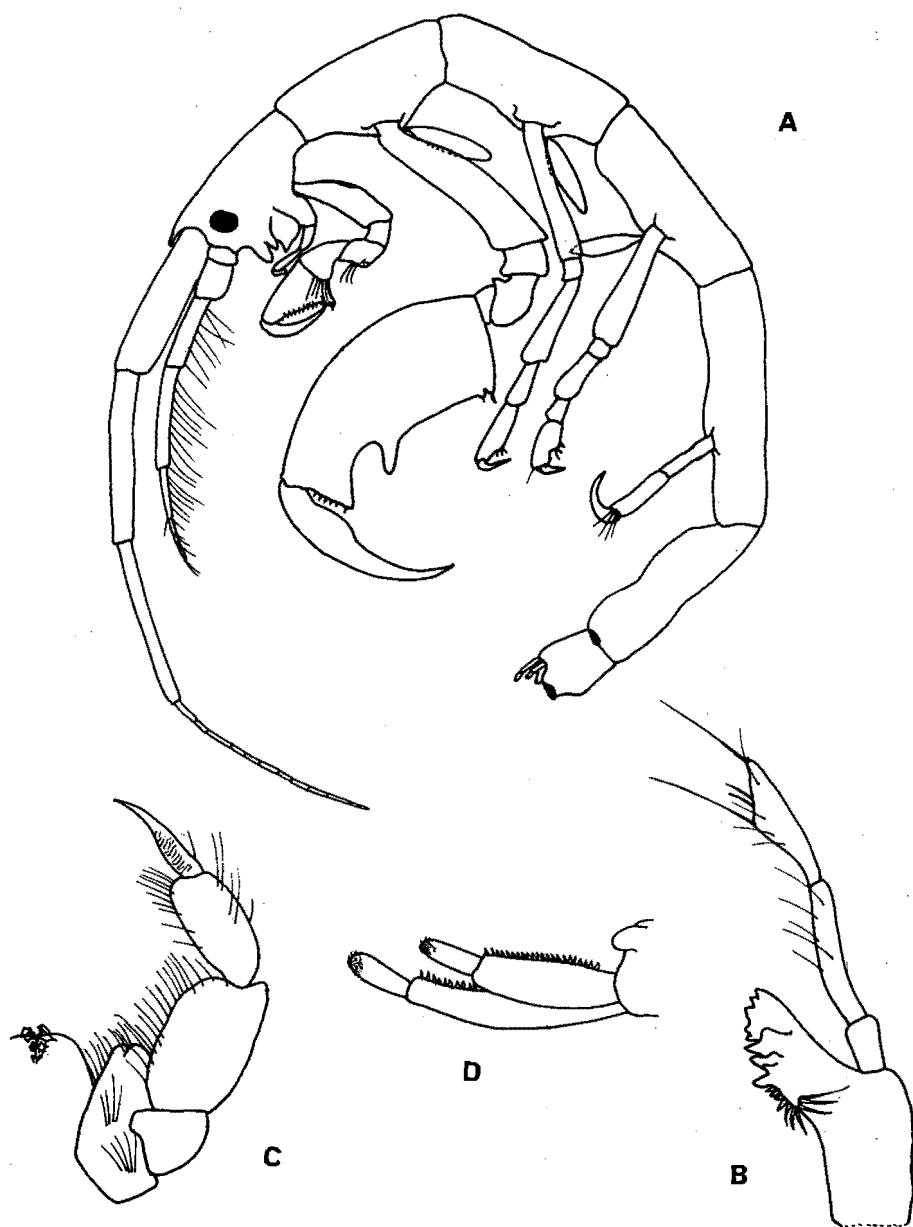


Fig. 7. *Chaka leoni* n. gen., n. sp.
Male, 11 mm: A—lateral aspect; B—mandible; C—maxilliped; D—lateral view of abdominal appendages.

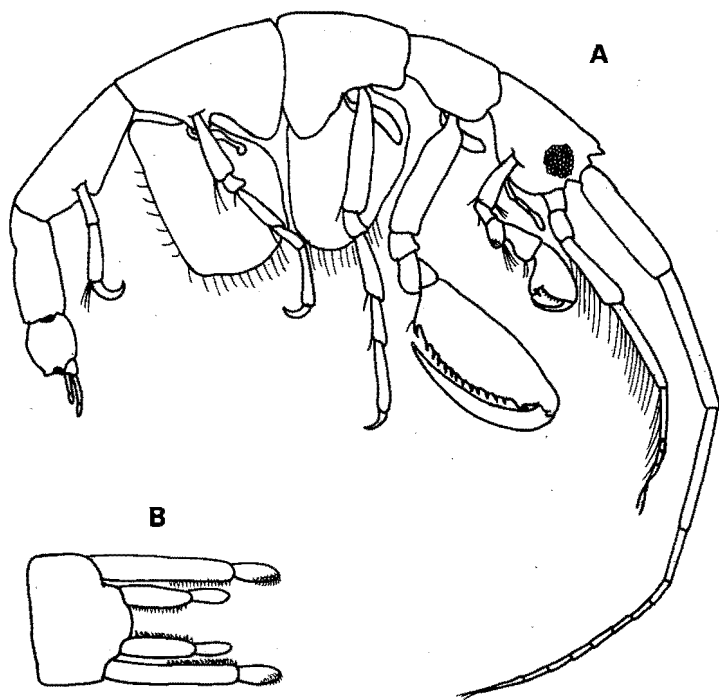


Fig. 8. *Chaka leoni* n. gen., n. sp.
Female, 8 mm: A—lateral aspect; B—dorsal view of abdomen.

1, flagellum 3-articulate, swimming setae present; mandible with 3-articulate palp, setal formula of terminal article 1-2-1, incisor of mandible (Fig. 7B) five toothed, lacinia mobilis smooth, two accessory plates present, below which lies a row of ten strong setae, molar absent; inner and outer lobes of maxilliped equal, inner lobes nearly fused, armed distally with serrate spines.

Propodos of gnathopod 1 subtriangular, palm evenly concave, defining angle produced into a rounded lobe; gnathopod 2 very large, propodos with proximal poison tooth followed by a pair of small protuberances, palm distally with a strong pointed tooth separated from a triangular tooth near the hinge by a semicircular excavation; dactyl strong, equal to palm; branchiae elongate-elliptical, three pairs found on pereon segments 2-4; pereopods 1 and 2 6-segmented, palm of propodos proximally with three spines; pereopod 3 3-segmented, propodos lacking palm and without spines; (pereopods 4 and 5 missing).

Abdomen with two pairs of bi-articulate appendages (Fig. 7D); article 1 of each dorsally with closely packed short spines set in a row, article 2 of each appendage distally finely setose.

Female: Rostral projection shorter and of different shape to that of the male;

antenna 2 as long as peduncle of antenna 1; propodos of gnathopod 2 smaller than that of male, palm evenly convex with a row of 12 short strong spines evenly spaced along its length and a small poison tooth at defining angle; pereiopods as in male but 1 and 2 lacking spines; pereon segments 3 and 4 ventro-laterally produced into projecting keels, ventrally with large brood pouches; abdomen as in male.

Holotype: SAM A13165, male, 11 mm.

Type-locality: NAD 15K, 13 August 1958, 30°47'S/30°27'E, depth 36 m.

Material: Three males and three females from the type-locality.

SUMMARY

Data from the considerable collections amassed by the University of Cape Town Ecological Survey and the National Institute for Water Research have been incorporated with the records of previous authors in listing the known gammaridean and caprellid amphipod fauna of Natal. A total of 115 species is recognized from the area. Of these six species and one genus are described as new to science, namely *Microdeutopus thumbellinus* n. sp., *Unciolella spinosa* n. sp., *Ceradocus natalensis* n. sp., *Urothoe coxalis* n. sp., *Urothoe tumorosa*, n. sp., and *Chaka leoni* n. gen., n. sp., (Phtisicidae). In addition two existing species, *Gammaropsis imminens* K. H. Barnard and *Gammaropsis semidentatus* K. H. Barnard are synonymized with *Gammaropsis atlantica* Stebbing and *Gammaropsis holmesi* Stebbing respectively.

References to and distributions for each species are given, as well as brief diagnoses of those species not previously described in Parts 1 and 2 of this series.

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ZOOLOGICAL NOMENCLATURE

To be governed by the rulings of the latest *International code of zoological nomenclature* issued by the International Trust for Zoological Nomenclature (particularly articles 22 and 51). The Harvard system of reference to be used in the synonymy lists, with the full references incorporated in the list at the end of the article, and not given in contracted form in the synonymy list.

Example

Scalaria coronata Lamarck, 1816: pl. 451, figs 5 *a*, *b*; Liste: 11. Turton, 1932: 80.

C. L. Griffiths

THE AMPHIPODA OF SOUTHERN AFRICA
PART 3
THE GAMMARIDEA AND CAPRELLIDEA
OF NATAL

ANNALS OF THE SOUTH AFRICAN MUSEUM
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THE AMPHIPODA OF SOUTHERN AFRICA
PART 4
THE GAMMARIDEA AND CAPRELLIDEA OF
THE CAPE PROVINCE EAST OF CAPE AGULHAS

By
C. L. GRIFFITHS

Cape Town Kaapstad

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C. L. GRIFFITHS

C.S.I.R. Oceanographic Research Unit, University of Cape Town

(With 18 figures)

[MS. accepted 15 October 1973]

CONTENTS

	PAGE
Introduction	251
The collecting stations	
Collections from the marine environment	252
Collections from estuaries	259
Systematics	264
Gammaridea	265
Caprellidea	330
Summary	333
Acknowledgements	333
References	334

INTRODUCTION

This paper forms the fourth part of a series dealing with the gammaridean and caprellid amphipod fauna of Africa south of 20°S. Parts one to three (Griffiths 1973 and 1974*a* and *b*) have covered southern Moçambique, southern South West Africa and Natal respectively, while the present section deals with the Cape Province east of Cape Agulhas (i.e. from 20°E to 30°E).

A feature of this region is the considerable number of estuaries to be found there, many of which have been investigated by ecological survey teams from the University of Cape Town. However, most of these studies have been cursory and really only Knysna Estuary has been adequately worked on, resulting in a paper on its ecology by Day, Millard & Harrison (1952).

The marine sampling coverage for the eastern Cape, on the other hand, has been relatively thorough, over 700 marine samples being represented in the University of Cape Town collections (compared with 200 from Moçambique, 250 from South West Africa and 350 from Natal). An emphasis on the Cape is equally evident in the works of Stebbing (1908*a*, 1910*a*) and K. H. Barnard (1916, 1925, 1940, 1955) and this increased collecting effort has revealed a comparably larger haul of species (173, compared with 65, 81 and 115 from Moçambique, South West Africa and Natal respectively). At this stage it cannot be definitely stated whether the Cape fauna is richer than that of the other areas,

or whether the increased number of species is merely due to increased collecting effort. However, the amphipod faunas of temperate areas have, in general, been found to be richer than those of more tropical zones.

The dominant ocean current in the eastern Cape is the south-westerly flowing Agulhas Current, the inner margin of which tends to follow the continental shelf. At its centre the current flows at a rate of about three knots, but this decreases rapidly with depth. As the continental shelf widens towards the west the warm Agulhas water is progressively forced further offshore and inshore counter-currents and cold-water upwellings become progressively more important. Thus, while surface temperatures at the core of the Agulhas Current are usually in the range 20–25°C, thermoclines and upwellings mean that bottom temperatures are considerably lower. Over the Agulhas Bank itself a flow of upwelled water from south-east to north-west maintains the bottom temperature at 10–13°C. Slightly higher figures are obtained to the east of the bank, so that at Still Bay temperatures at 50 m fall around 15°C, dropping to 12°C at 200 m. As one progresses east there is a further rise so that at Port Elizabeth the temperature at 50 m averages about 17°C while north of East London a comparable figure would be 18–20°C. It must be stressed that the inshore regime is subject to considerable variation caused by periodic upwellings and counter-current intensities. For example, during periods of strong westerly winds the whole Agulhas Bank region becomes an Atlantic Ocean province, with a consequent drop in surface temperature.

As the collections of the University of Cape Town from the southern and eastern Cape Province fall into a large number of different sections these are discussed briefly below under the categories of collections from the open sea, and those from estuaries. The collecting locations are shown on Figure 1.

THE COLLECTING STATIONS

Collections from the marine environment

(a) Still Bay shelf transect (SST)

The samples in this series were collected off Still Bay on 20 to 22 June 1972 and form part of the material for an analysis of benthic distribution being undertaken by Dr J. G. Field of the C.S.I.R. Oceanographic Research Unit, University of Cape Town. The amphipod material derived from this collection has proved particularly diverse and interesting. A total of 66 species was recovered from the 82 samples, which were taken in the form of a transect from 5 to 200 m. These species included eight new to science, as well as a number of new records and rare species. The majority of these new species and new records was recovered from the 200 m station which appears to represent a habitat type not previously adequately sampled, since large numbers of new species from various other groups were also recovered here.

The transect was originally planned to sample an area of shelly sand, but

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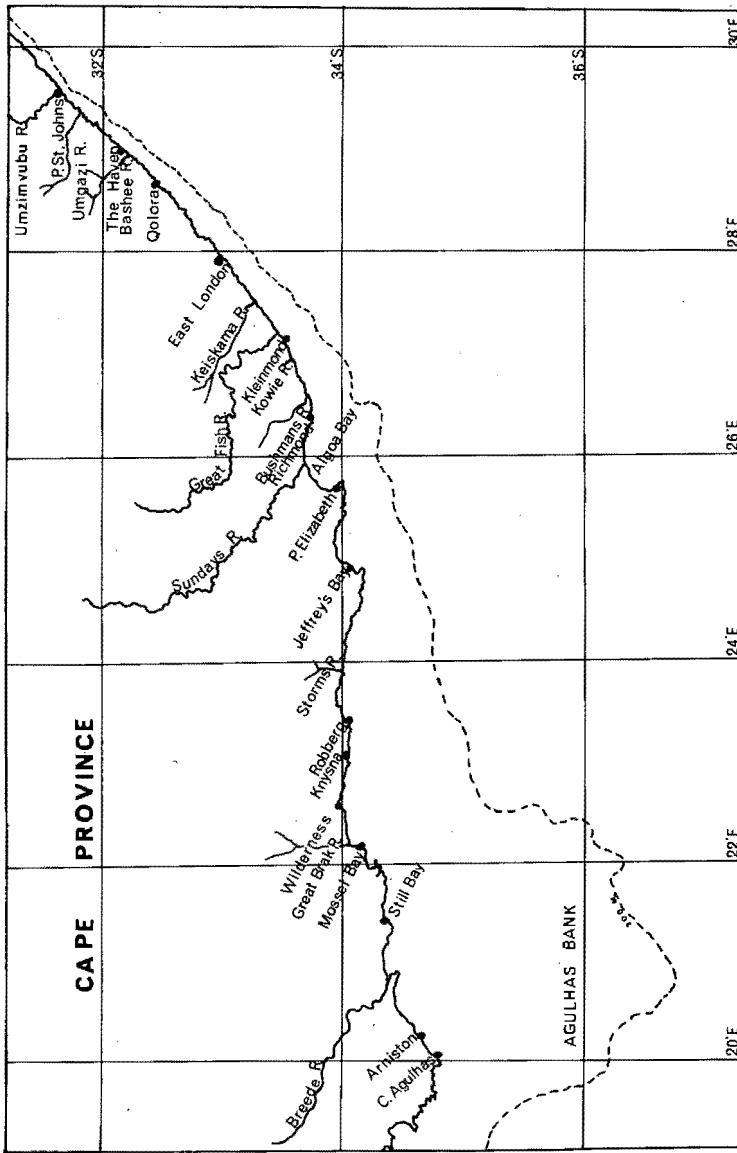


Fig. 1. The eastern Cape Province showing collecting areas referred to in the text.

a band of green mud was found to occupy a region from 50 to 80 m. The sandy area from 5 to 50 m was not heavily populated by amphipods, although *Urothoe pulchella*, *Mandibulophoxus stimpsoni*, *Hippomedon onconotus* and a few other species were reasonably common. The muddy zone from 50 to 80 m was very sparsely populated with just a few *Ampelisca brevicornis* and *Perioculodes longimanus* and an occasional concentration of *Siphonoecetes dellavallei*. In the area deeper than 80 m a great diversity of species was to be found, the 200 m

station being particularly rich. Large *Ampelisca* were a feature of the area, notably *A. fusca*, but also *A. chiltoni* and *A. brevicornis*. *Mandibulophoxus stimpsoni* and *Leucothoe richiardi* were also well represented while the unusual *Concholestes armatus* n. sp. was discovered roaming the surface in old scaphopod shells.

SST station data

<i>Catalogue No.</i>	<i>Date</i>	<i>Location</i>	<i>Depth (m)</i>	<i>Substrate</i>
SST 1-17	20/6/72	35°22'S/22°31'E	200	Rock and sand
SST 18-24	20/6/72	35°06'S/22°15'E	120	Shelly sand
SST 29-37	21/6/72	34°40'S/21°39'E	80	Shelly sand
SST 40-45	21/6/72	34°25'S/21°28'E	50	Green mud
SST 47-57	21/6/72	34°24'S/21°27'E	30	Shelly sand
SST 58-60	21/6/72	34°23'S/21°26'E	10	Shelly sand
SST 61-66	21/6/72	34°23'S/21°26'E	15	Shelly sand
SST 67-73	21/6/72	34°23'S/21°26'E	20	Shelly sand
SST 74-75	22/6/72	34°23'S/21°26'E	20	Shelly sand
SST 76	22/6/72	34°23'S/21°26'E	15	Shelly sand
SST 77	22/6/72	34°22'S/21°26'E	5	Shelly sand
SST 81	22/6/72	34°46'S/20°25'E	81	Green mud

(b) *Algoa Bay dredge (LIZ)*

This code has been allocated to a series of some 40 grab and dredge samples collected in Algoa Bay during April 1954. Eleven of these samples revealed amphipods, 24 species being represented. The only species at all common in the area were *Ampelisca chiltoni*, *Ampelisca diadema*, *Cheiriphotis megacheles* and the ubiquitous *Paramoera capensis*.

LIZ station data

<i>Catalogue No.</i>	<i>Date</i>	<i>Location</i>	<i>Depth (m)</i>	<i>Substrate</i>
LIZ 1	5/4/54	33°55'S/25°37'E	8-10	Mud
LIZ 3	5/4/54	33°56'S/25°40'E	17-18	Sand
LIZ 13	6/4/54	33°58'S/25°38'E	7-8	Sand
LIZ 17	7/4/54	33°58'S/25°40'E	14	Stones
LIZ 19	7/4/54	33°58'S/25°42'E	27	Sand and shells
LIZ 25	11/4/54	34°00'S/25°44'E	39	Sand and shells
LIZ 29	11/4/54	34°00'S/25°42'E	5-7	Rock
LIZ 31	6/4/54	33°57'S/25°38'E	9	Limestone and clay
LIZ 32	6/4/54	33°58'S/25°39'E	9	Stones
LIZ 37	6/4/54	33°58'S/25°39'E	9	Stones
LIZ 40	11/4/54	34°00'S/25°42'E	7	Rock

(c) *Mossel Bay dredge (MB)*

The MB code is carried by a series of 88 dredge samples collected in Mossel Bay during January 1956. The substrate of the bay is predominantly sand, although there are considerable outcrops of rock. Twenty-four amphipod species are recorded from the area. Samples taken from rock showed the most frequently encountered species to be *Ceradocus rubromaculatus* and *Gammaropsis atlantica* as well as *Leucothoe* spp. and *Caprella* spp. Sandy areas contained

numerous *Cheiriphotis megacheles*, *Lysianassa ceratina* and *Ampelisca* spp., while *Paramoera capensis*, the most common species in the bay, was found in both rocky and sandy areas.

MB station data				
Catalogue No.	Date	Location	Depth (m)	Substrate
MB 4	12/1/56	34°09'S/22°07'E	10	Shell, rock
MB 5	12/1/56	34°08'S/22°08'E	21	Fine sand
MB 10	12/1/56	34°04'S/22°13'E	19	Rock
MB 13	12/1/56	34°04'S/22°13'E	19	Rock
MB 16	13/1/56	34°11'S/22°10'E	16	Sand and rock
MB 20	13/1/56	34°08'S/22°07'E	13	Sand, shells, rock
MB 21	13/1/56	34°10'S/22°08'E	8	Sand
MB 23	13/1/56	34°08'S/22°07'E	12,5	Rock
MB 28	13/1/56	34°11'S/22°09'E	19	Rock
MB 32	15/1/56	34°09'S/22°07'E	10	Shelly sand
MB 33	15/1/56	34°08'S/22°07'E	19	Sand
MB 34	15/1/56	34°08'S/22°09'E	31	Sand
MB 37	16/1/56	34°09'S/22°10'E	31	Sand
MB 38	16/1/56	34°10'S/22°07'E	8,5	Sand
MB 40	16/1/56	34°10'S/22°08'E	9	Rock
MB 41	16/1/56	34°10'S/22°08'E	9	Rock
MB 45	17/1/56	34°10'S/22°09'E	17	Sand
MB 46	17/1/56	34°11'S/22°10'E	26	Sand
MB 50	17/1/56	34°11'S/22°09'E	10	Rock
MB 54	17/1/56	34°10'S/22°09'E	14	Rock, sandy patches
MB 57	17/1/56	34°10'S/22°09'E	9	Rock
MB 58	18/1/56	34°04'S/22°13'E	12,5	Rock
MB 59	18/1/56	34°04'S/22°13'E	11,5	Rock
MB 61	18/1/56	34°04'S/22°14'E	17-20	Coarse sand, shell, rock
MB 66	18/1/56	34°04'S/22°13'E	26	Sand and rock
MB 69	19/1/56	34°08'S/22°07'E	13,5	Sand, rocky
MB 70	19/1/56	34°08'S/22°07'E	18	Sand
MB 71	19/1/56	34°08'S/22°07'E	12	Sand
MB 73	19/1/56	34°09'S/22°07'E	12	Rock, sand, shell
MB 75	19/1/56	34°08'S/22°07'E	15,5	Sand
MB 77	20/1/56	34°11'S/22°06'E	24	Rock and sand patches
MB 80	20/1/56	34°05'S/22°11'E	20,5	Fine sand and mud
MB 82	20/1/56	34°10'S/22°09'E	—	(Plankton haul)
MB 84	21/1/56	34°11'S/22°10'E	29	Rock
MB 86	17/1/56	34°11'S/22°09'E	10	Rock
MB 87	17/1/56	34°10'S/22°09'E	14	Rock, sandy patches.

(d) Trawler stations (TRA)

Material collected during excursions by members of the Zoology Department of the University of Cape Town on commercial trawlers are grouped under this code. Although there are 44 TRA stations in the area under consideration only three contain amphipods. Five species have been identified from these samples, none of them at all common.

TRA station data				
Catalogue No.	Date	Location	Depth (m)	Substrate
TRA 54	28/11/52	34°40'S/21°35'E	75	Rock
TRA 55	28/11/52	34°40'S/21°35'E	75	Rock
TRA 58	26/11/52	34°28'S/21°45'E	70	Sand and stones

(e) *South coast dredge (SCD)*

Grab and dredge samples collected between 20°E and 30°E along the southern Cape coast, and which do not form part of the specific studies mentioned above, are allocated to the SCD catalogue. To date there are some 400 samples in the series and included in the recorded fauna are 96 species of amphipod. Of these species *Mandibulophoxus stimpsoni* and *Perioculodes longimanus* have been the most commonly found, while other frequently occurring species have been *Ampelisca brevicornis*, *Ampelisca palmata*, *Aora typica*, *Cheiriphotis megacheles*, *Gammaropsis atlantica* and *Photis* and *Urothoe* spp.

SCD station data				
Catalogue No.	Date	Location	Depth (m)	Substrate
SCD 3	18/4/58	34°31'S/24°40'E	102	Rock
SCD 10	19/4/58	34°15'S/25°05'E	11	Rock and shell
SCD 20	26/5/58	34°07'S/23°23'E	46	Rock
SCD 24	26/5/58	34°46'S/23°27'E	110	Rock
SCD 34	21/5/58	33°03'S/27°56'E	57	Sand, shells
SCD 41	19/5/58	32°15'S/28°57'E	47	Rock
SCD 55	20/8/58	34°01'S/25°45'E	46	Rock
SCD 59	19/8/58	33°37'S/26°56'E	46	—
SCD 60	16/8/58	33°02'S/27°56'E	46	Rock
SCD 62	15/8/58	32°17'S/28°54'E	46	Rock
SCD 64	14/8/58	31°37'S/29°36'E	36,5	Mud
SCD 74	16/7/59	32°33'S/28°38'E	55	Sand and mud
SCD 81	16/7/59	32°43'S/28°28'E	58	Stones, shells
SCD 83	17/7/59	27°54'S/33°03'E	51	Sand, shells
SCD 93	17/7/59	33°03'S/27°55'E	27	Rock
SCD 94-96	20/7/59	34°21'S/25°41'E	110	Shell
SCD 99	21/7/59	34°33'S/24°01'E	130	Rock
SCD 100	21/7/59	34°33'S/24°01'E	130	Rock
SCD 102	21/7/59	34°33'S/24°01'E	130	Rock
SCD 103	22/7/59	35°07'S/22°15'E	120	Sand
SCD 104-5	23/7/59	34°33'S/21°28'E	67	Sand, shells
SCD 106	23/7/59	34°35'S/21°10'E	67	Rock
SCD 110	23/7/59	34°35'S/21°11'E	75	Sand, stones
SCD 115	26/11/59	34°54'S/22°12'E	106	Sand, shells
SCD 118	14/2/60	34°24'S/21°46'E	18	Rock
SCD 120	14/2/60	34°33'S/21°52'E	77	Sand
SCD 122	14/2/60	34°40'S/22°00'E	93	Sand
SCD 124	3/6/60	34°26'S/21°48'E	67	Mud
SCD 127-8	3/6/60	34°37'S/21°56'E	87	Sand
SCD 131	3/6/60	34°48'S/22°06'E	100	Sand
SCD 135	26/11/59	34°29'S/21°49'E	73	Mud
SCD 138	28/8/60	34°35'S/21°56'E	77	Shells
SCD 141	28/8/60	34°46'S/22°05'E	93	Sand
SCD 146	28/8/60	34°46'S/22°05'E	93	Sand
SCD 148	28/8/60	34°59'S/22°18'E	106	Sand
SCD 151	2/6/60	34°55'S/21°26'E	91	—
SCD 159	25/11/60	34°03'S/25°59'E	84	Rock
SCD 160	25/11/60	34°03'S/25°59'E	84	Rock
SCD 172	24/11/60	33°58'S/25°41'E	4-11	Rock
SCD 179	24/11/60	33°58'S/25°41'E	4-11	Rock
SCD 181	30/11/60	34°20'S/23°31'E	110	Sand
SCD 184	25/11/60	34°23'S/26°01'E	137	Sand, shells

<i>Catalogue No.</i>	<i>Date</i>	<i>Location</i>	<i>Depth (m)</i>	<i>Substrate</i>
SCD 185	25/11/60	34°13'S/26°04'E	124	Sand
SCD 188	30/11/60	34°10'S/23°32'E	97	Mud
SCD 189	29/11/60	34°05'S/23°23'E	10	Sand
SCD 192-3	29/11/60	34°04'S/23°25'E	47	Mud
SCD 194	29/11/60	34°04'S/23°25'E	43	Sand
SCD 198	29/11/60	34°07'S/23°31'E	79	Sand
SCD 199	30/11/60	34°10'S/23°32'E	97	Mud
SCD 202	29/11/60	34°05'S/23°23'E	10	Sand
SCD 204	30/11/60	34°51'S/23°41'E	183	Sand
SCD 208	25/11/60	34°23'S/26°01'E	137	Sand, shells
SCD 211	24/11/60	33°58'S/25°42'E	26	Sand, shells
SCD 216	25/11/60	34°03'S/25°58'E	78	Sand, shells
SCD 219	29/11/60	34°02'S/23°28'E	49	Rock
SCD 222	25/11/60	34°13'S/26°04'E	124	Sand
SCD 225	30/11/60	34°20'S/23°31'E	112	Rock
SCD 227	29/11/60	34°07'S/23°31'E	79	Sand
SCD 228	5/12/60	35°43'S/20°31'E	143	Mud
SCD 230	29/11/60	34°04'S/23°25'E	43	Sand
SCD 232	4/12/60	36°28'S/21°11'E	183	Sand
SCD 235-7	30/11/60	34°51'S/23°41'E	183	Sand
SCD 244-5	29/11/60	34°02'S/23°28'E	49	Rock
SCD 248	29/11/60	34°04'S/23°25'E	45	Mud
SCD 249	30/11/60	34°48'S/23°39'E	148	Rock
SCD 253	16/7/61	33°07'S/28°01'E	88	Rock
SCD 257	14/7/61	33°53'S/25°42'E	32	Sand
SCD 262	14/7/61	33°48'S/25°47'E	27	Rock
SCD 267	16/7/61	33°02'S/27°56'E	55	Sand, rock
SCD 269	19/7/61	34°23'S/25°54'E	182	Sand, shells
SCD 273	19/7/61	34°23'S/25°54'E	182	Sand, shells
SCD 276	14/7/61	33°53'S/25°42'E	32	Sand
SCD 278	16/7/61	33°02'S/27°56'E	55	Sand, rock
SCD 280	16/7/61	33°09'S/28°05'E	274	Rock
SCD 282-3	11/2/62	34°04'S/23°23'E	22	Sand, shells
SCD 285	6/2/62	33°01'S/27°55'E	7	Sand
SCD 286	6/2/62	33°01'S/27°55'E	7	Sand
SCD 287	11/2/62	34°04'S/23°23'E	22	Sand, shells
SCD 288	6/2/62	33°04'S/27°57'E	84	Shells
SCD 295	6/2/62	33°04'S/27°57'E	84	Shells
SCD 300	6/2/62	33°09'S/28°02'E	84	—
SCD 302	6/2/62	33°39'S/27°15'E	88	Sand
SCD 304	8/2/62	34°00'S/25°53'E	46	Rock
SCD 308	8/2/62	34°00'S/25°53'E	46	Rock
SCD 310	9/2/62	33°59'S/25°51'E	50	Mud
SCD 311	9/2/62	33°59'S/25°51'E	50	Mud
SCD 312	9/2/62	33°58'S/25°47'E	48	Sand
SCD 315	9/2/62	33°58'S/25°47'E	48	Sand
SCD 319	9/2/62	34°15'S/25°50'E	108	Sand, rock
SCD 321	9/2/62	34°15'S/25°50'E	108	Sand, rock
SCD 324	9/2/62	34°27'S/25°57'E	172	Sand
SCD 326	9/2/62	34°27'S/25°57'E	172	Sand
SCD 328	10/2/62	34°43'S/25°40'E	—	(Glass buoy)
SCD 329	11/2/62	34°04'S/23°23'E	22	Shell
SCD 332	11/2/62	34°03'S/23°23'E	11-18	Sand
SCD 338	11/2/62	34°02'S/23°27'E	42	Mud
SCD 339	11/2/62	34°02'S/23°27'E	42	Mud
SCD 342	11/2/62	34°39'S/23°41'E	121	Shell, sand
SCD 343	11/2/62	34°39'S/23°41'E	121	Sand, shells

<i>Catalogue No.</i>	<i>Date</i>	<i>Location</i>	<i>Depth (m)</i>	<i>Substrate</i>
SCD 345	12/2/62	34°16'S/22°17'E	73	Sand, mud
SCD 347	12/2/62	34°10'S/22°15'E	54	Mud
SCD 348	12/2/62	34°09'S/22°10'E	36	Sand
SCD 349	12/2/62	34°09'S/22°09'E	18	Sand
SCD 350	13/2/62	34°28'S/21°50'E	73	Sand
SCD 352	16/4/62	34°25'S/25°56'E	210	Mud, shells
SCD 353	6/2/62	33°04'S/27°57'E	84	Sand, shells
SCD 356	6/11/62	36°01'S/19°45'E	300	Sand, mud
SCD 359	19/11/62	34°48'S/22°51'E	120	—
SCD 366	2/12/62	33°50'S/25°47'E	36	Sand, rock
SCD 368	2/12/62	33°50'S/25°47'E	36	Sand
SCD 370	4/12/62	33°59'S/25°45'E	44	Sand
SCD 373	4/12/62	33°59'S/25°51'E	36-54	Sand, shells
SCD 374	4/12/62	33°59'S/25°51'E	54	Sand, shells
SCD 376	4/12/62	33°53'S/25°49'E	44	Sand
SCD 379	5/12/62	33°53'S/25°48'E	44	Sand
SCD 381	5/12/62	33°53'S/25°48'E	44	Sand
SCD 383	5/12/62	33°52'S/25°38'E	7	Sand
SCD 384	5/12/62	33°52'S/25°38'E	7	Sand
SCD 388	8/12/62	34°04'S/23°23'E	46	Rock
SCD 391	8/12/62	34°05'S/23°23'E	11	Sand
SCD 392	9/12/62	35°08'S/22°02'E	125	Sand, shells

(f) *Shore stations*

The collections falling into this group are the earliest made by the University of Cape Town Ecological Survey and were intended to reveal zonation of the intertidal fauna around the South African coast. The various collections are denoted by the following catalogue codes (most of the stations were visited only once, but where material was collected on subsequent visits this is indicated by doubling the code letter for second visits and tripling it in the case of third visits).

<i>Catalogue code</i>	<i>Location</i>	<i>Map reference</i>
J	Port St. Johns	31°38'S/29°33'E
H	The Haven	32°14'S/28°55'E
Q	Qolora	32°38'S/28°26'E
L, LL, LLL	East London	33°02'S/27°54'E
X	Kleinmont	33°33'S/27°04'E
K	Kowie	33°36'S/26°54'E
Y	Richmond	33°44'S/26°35'E
E	Port Elizabeth	33°58'S/25°38'E
Z, ZZ	Jeffreys Bay	34°05'S/24°55'E
T	Storms River	34°02'S/23°54'E
R, RR	Robberg	34°05'S/23°22'E
KN, KKN	Knysna	34°05'S/23°04'E
V, VV	Mossel Bay shore	34°11'S/22°09'E
S, SS	Still Bay shore	34°23'S/21°26'E
AR	Arniston	34°41'S/20°14'E
AG	Cape Agulhas	34°50'S/20°10'E

Amphipod records at these locations are purely of a presence-absence type, since the original purpose of the collections was to give an indication of distribution.

Species most frequently encountered intertidally in this area are *Ceradocus rubromaculatus*, *Hyale grandicornis*, *Jassa falcata*, *Lysianassa ceratina* and *Paramoera capensis*, which were found at virtually all the collecting stations. A number of species appear to be restricted to the intertidal zone and have yet to be found sublittorally. These include *Ampithoe africana*, *Elasmopus pectenicrus*, *Palinotus natalensis*, *Temnophlias capensis* and *Hyale* and *Talorchestia* spp.

Collections from estuaries

(a) *Estuaries near Port St. Johns (STJ)*

The largest of the rivers in this area is the Umzimvubu, which enters the sea at the town of Port St. Johns. At the time of sampling (1950) the estuary was muddy but became sandy near the mouth. Heavy silting had restricted the fauna but *Grandidierella bonnieroides* and *G. chelata* were abundant among stones near the mouth while *G. lingorum* was dominant further upstream. *Melita zeylanica* and *Orchestia rectipalma* were also to be found on the mud flats, while *Talorchestia* and *Orchestia* spp. occupied the driftline. *Urothoe pulchella* was also recovered, but was restricted to clean sand near the mouth.

Just south of the town of Port St. Johns lie two minor estuaries known as the Eastern and Western Estuaries. Here again muddy zones were occupied by such typical estuarine species as *Melita zeylanica*, *Corophium triaenonyx* and *Grandidierella* spp. while *Urothoe pulchella* was to be found in clean sand.

The Umgazi Estuary, a few kilometres further south, was also sampled. Here again the fauna conformed to the pattern typical of the area with *Melita zeylanica*, *Corophium triaenonyx* and *Grandidierella* spp. giving way to *Afrochil-tonia capensis* further upstream.

A brief exploratory visit to the Umgazana River 6 km south of the Umgazi revealed a population of *Orchestia rectipalma* living amongst algae on the pneumatophores of mangroves.

STJ station data

<i>Catalogue No.</i>	<i>Date</i>	<i>Location</i>
STJ 5	17/1/50	Drift line, Umzimvubu R. mouth
STJ 6	17/1/50	Intertidal mud, Umzimvubu R. mouth
STJ 7	17/1/50	Rocks, Umzimvubu R. mouth
STJ 8	17/1/50	Mud sievings, Umzimvubu R. mouth
STJ 14	18/1/50	Clean sand, Umzimvubu R. mouth
STJ 15	18/1/50	Clean sand, Umzimvubu R. mouth
STJ 16	18/1/50	Western Estuary
STJ 17	18/1/50	Mouth of Eastern Estuary
STJ 18	18/1/50	Mud bank, 2 km up Umzimvubu R.
STJ 24	19/1/50	Netting, 2 km up Umgazi R.
STJ 26	19/1/50	Muddy sand, 2 km up Umgazi R.
STJ 27	19/1/50	Under stones, Umgazi R. mouth
STJ 28	19/1/50	Mangrove roots, Umgazana R.
STJ 29	19/1/50	Sandy beach, Umgazi R. mouth
STJ 31	20/1/50	Decaying wood, Western Estuary
STJ 32	20/1/50	Weeds and stones, Western Estuary

(b) *Estuaries near The Haven hotel (HAV)*

Three estuaries in the vicinity of The Haven were briefly visited by a party of biologists from the University of Cape Town in January 1950.

The Bashee River winds across a narrow flood plain bordered by steep wooded hills and then widens into a lagoon before entering the sea between sand dunes. The area near the mouth is predominantly sandy but there are occasional rocky outcrops, further upstream the sand is replaced by mud and there is a dense growth of reeds and patches of mangroves. The muddy zones were dominated by *Grandidierella lignorum* while the clean sand near the mouth was occupied by *Urothoe pulchella*. *Orchestia ancheidos* occurred along the drift line.

Blind Lagoon is a small, almost permanently closed estuary just below the hotel. At the seaward end the bottom is sand but this is replaced upstream by mud which forms the bottom of the rest of the lagoon except the head, where there are outcrops of rock. The body of the estuary was well colonized by seven species of amphipod, all typical estuarine forms. Most common of these was *Grandidierella chelata* which was originally described from specimens collected here.

The Mbanyana River Estuary consists of a large lagoon surrounded by steep wooded banks and flowing into the sea through a narrow sandy channel. At the time of sampling the depth of the lagoon was less than 30 cm and the bottom graduated from sand at the seaward end through mud to stones at the head. Near the outlet *Corophium triaenonyx*, *Grandidierella lignorum* and *Urothoe pulchella* were common while further upstream they were replaced by *Melita zeylanica* and *Orchestia rectipalma*.

HAV station data

<i>Catalogue No.</i>	<i>Date</i>	<i>Location</i>
HAV 3	12/1/50	Outlet of Mbanyana R.
HAV 5	13/1/50	Sand, Blind Lagoon
HAV 7	13/1/50	D-netting, Blind Lagoon
HAV 8	13/1/50	Submerged log, Blind Lagoon
HAV 9	13/1/50	Rocks, Blind Lagoon
HAV 10	13/1/50	Stones, Blind Lagoon
HAV 13	13/1/50	D-netting, mouth of Bashee R.
HAV 17	14/1/50	Sand, mouth of Mbanyana R.
HAV 18	14/1/50	Stones, 1 km up Mbanyana R.
HAV 20	14/1/50	Netting, 4 km up Bashee R.

(c) *Keiskama Estuary (HAM)*

The Keiskama River is tidal for some 30 km, widening over this distance to some 2 km at Hamburg before entering the sea between headlands at 33°18'S/27°29'E. The river carries a good deal of silt and is shallow and muddy except at the actual mouth where there are rocks and a small area of clean sand. Only five species of amphipod have been recovered from the system. Of these *Orchestia ancheidos* and *Talorchestia capensis* were locally common under

weeds along the driftline, while *Afrochiltonia capensis*, *Melita zeylanica* and *Orchestia rectipalma* were to be found under stones and among weeds throughout the tidal reaches.

HAM station data

<i>Catalogue No.</i>	<i>Date</i>	<i>Location</i>
HAM 3	9/1/50	<i>Zostera</i> bed, 1 km from mouth
HAM 4	9/1/50	Driftline, 1 km from mouth
HAM 9	10/1/50	Under stones, Hamburg jetty
HAM 11	10/1/50	Hand netting, 8 km from mouth
HAM 13	11/1/50	Hand netting, 30 km from mouth

(d) *Bushmans River (BMR)*

A brief examination of the Bushmans River Estuary by a team from the Zoology Department of the University of Cape Town in September 1950 revealed five amphipod species. The upper reaches were colonized by a typical fauna of *Grandidierella lignorum*, *Corophium triaenonyx* and *Melita zeylanica* with *Orchestia ancheidos* occurring along the banks. The only unusual record was one of *Ampelisca spinimana* from *Zostera* near the mouth (33°41'S/26°41'E).

BMR station data

<i>Catalogue No.</i>	<i>Date</i>	<i>Location</i>
BMR 7	9/9/50	Digging and netting 30 km from mouth
BMR 21	12/9/50	Bank, 24 km from mouth
BMR 23	14/9/50	<i>Zostera</i> bed, 4 km from mouth
BMR 25	14/9/50	Reed bed, 40 km from mouth
BMR 26	15/9/50	<i>Zostera</i> bed, 4 km from mouth

(e) *Sundays River Estuary (SUN)*

The Sundays River flows between vertical mudbanks until about 1 km from the wide shallow mouth (at 33°43'S/25°51'E) where the bottom becomes sandy and the east bank rocky. A survey of the fauna revealed only three amphipod species. Of these *Urothoe pulchella* and *Corophium triaenonyx* were recovered from clean sand near the mouth, while *Melita zeylanica* occurred amongst weeds on the piles of a bridge 8 km upstream.

SUN station data

<i>Catalogue No.</i>	<i>Date</i>	<i>Location</i>
SUN 5	7/1/50	D-netting, sand flats at mouth
SUN 6	7/1/50	General collection, 8 km from mouth

(f) *Knysna Estuary (KNY)*

The Knysna Estuary is the richest in southern Africa and has been the subject of a detailed report by Day, Millard & Harrison (1952), who describe the topography and fauna of the system, based upon expeditions to the area between 1947 and 1955. These records have since been supplemented by a further collection taken in 1964.

The Knysna River lies 80 km east of Mossel Bay and widens into a large tidal basin over the last 18 km before entering the sea between two massive headlands at 34°05'S/23°04'E. The estuary is S-shaped and can be regarded as beginning at Charlesford Rapids. Below the rapids lies a stony ford known as 'The Old Drift'. From this point the river winds between marshy banks and beneath the Westford road bridge and then widens abruptly. Around the banks of the muddy upper basin lie the areas of Eastford, Ashford, Belvedere and The Point, while the small Salt River enters the north bank just above the railway bridge. Below the bridge the estuary is over 3 km wide and the channel is fringed by extensive muddy banks covered in *Zostera*. There are two islands in the lower basin, the upper of these, Paarden Island, lies just off Knysna town and on it is situated Thesen's wharf. The lower island, Leisure Island, is connected to the mainland by a causeway crossing boggy salt marshes. Below Leisure Island the lagoon narrows, the channel rapidly deepens and the banks become rocky before entering the heads at Fountain Point.

The flow in the estuary is generally not strong but is sufficient to maintain a salinity gradient. Tidal range at the heads is about 2 m, this range is maintained as far as Westford bridge but falls to 0,3 m at Charlesford. Within the lagoon wave action is negligible despite the vicious waves pounding the heads. Salinity only begins to fall significantly above the rail bridge at which point values of about 30‰ are usual (although there may be significant layering effects). At Westford bridge salinity ranges from 15–25‰ while comparable figures at Charlesford are 3–7‰.

Twenty-seven species of amphipod have been found in Knysna Estuary. Most of these are not typical estuarine forms and are restricted to the area below the railway bridge where salinity remains high. Most widespread in this area are *Cymadusa filosa*, which lives in mucous tubes on *Zostera* plants, and *Paramoera capensis*, *Jassa falcata*, *Corophium triaenonyx* and *Lembos hypacanthus*, which are locally abundant, especially on hard surfaces. Above the railway bridge the amphipod fauna is dominated by estuarine species such as *Grandidierella lignorum*, *Melita zeylanica*, *Orchestia rectipalma* and *Corophium triaenonyx* which all extend as far as Charlesford Rapids.

KNY station data

Catalogue No.	Date	Location
KNY 6	15/4/47	Dredge below Paarden Island
KNY 11	16/7/47	Dredge below Paarden Island
KNY 13	15/7/47	Channel west of Leisure Isle
KNY 28	17/7/47	Channel, Leisure Isle
KNY 30	16/7/47	Channel off Thesen's wharf
KNY 42	18/7/47	<i>Zostera</i> bed, Salt River
KNY 43	17/7/47	<i>Zostera</i> bed, Leisure Isle
KNY 50	19/7/47	Westford bridge
KNY 57	20/7/47	Channel at Fountain Point
KNY 81	27/11/47	Belvedere
KNY 101	12/4/49	Below Charlesford
KNY 103	—/4/49	Westford bridge

<i>Catalogue No.</i>	<i>Date</i>	<i>Location</i>
KNY 112	14/4/49	Below Charlesford
KNY 113	14/4/49	<i>Zostera</i> bed, 'The Point'
KNY 114	14/4/49	<i>Zostera</i> bed, Leisure Isle
KNY 122	12/4/49	Westford bridge
KNY 128	14/4/49	Causeway below Woodbourne
KNY 139	12/4/49	<i>Zostera</i> bed, Paarden Island
KNY 157	27/3/50	Seaward side of Leisure Isle
KNY 160	—/11/47	Charlesford Rapids
KNY 162	9/7/50	Rail bridge
KNY 166	9/7/50	Leisure Isle and buoys in channel
KNY 171	9/7/50	Knysna Heads and Fountain Point
KNY 175	10/7/50	Charlesford Rapids
KNY 176	11/7/50	Buoy off Leisure Isle
KNY 179	11/7/50	Sandbank at Brenton
KNY 181	12/7/50	Old drift
KNY 184	12/7/50	Charlesford
KNY 187	13/7/50	Sandbanks, Leisure Isle
KNY 191	14/7/50	Fountain Point
KNY 245	14/2/64	Leisure Isle
KNY 266	14/2/64	Ashford
KNY 272	15/2/64	Rail bridge
KNY 273	15/2/64	Rail bridge
KNY 274	15/2/64	Rail bridge
KNY 283	15/2/64	Rail bridge
KNY 285	15/2/64	Old Drift
KNY 286	15/2/64	Old Drift
KNY 291	15/2/64	Old Drift
KNY 294	14/2/64	Ashford

(g) *Estuaries near the Great Brak River (GBR)*

Three estuaries in the vicinity of the Great Brak River (34°03'S/22°14'E) were visited by the University of Cape Town Zoological Survey team in 1950. The amphipod faunas of the three rivers conform to the pattern typical of the area with *Urothoe pulchella* being found in clean sand near the mouth, while *Corophium triaenonyx*, *Melita zeylanica* and *Grandidierella lignorum* occurred throughout the estuaries. *Talorchestia australis* was found along the drift line.

GBR station data

<i>Catalogue No.</i>	<i>Date</i>	<i>Location</i>
GBR 12	30/4/50	Sand at mouth of Great Brak R.
GBR 13	30/4/50	Rocky shore near mouth, Great Brak R.
GBR 16	1/5/50	Sandy bottom of Great Brak R. 1 km from mouth
GBR 23	2/5/50	Above road bridge, Little Brak R.
GBR 24	2/5/50	Head of estuary, Little Brak R.
GBR 37	3/5/50	Weeds at mouth, Great Brak R.
GBR 46	4/5/50	Mouth of Wilderness Estuary

(h) *Breede River Estuary (BRE)*

The Breede River is one of the largest in the Cape Province and has been the subject of two expeditions by the University of Cape Town Ecological Survey. Over the last 50 km of its course the river is tidal and the channel reaches 8 m in depth. The mouth (at 34°25'S/20°53'E) is permanently open with

a sand spit and rocky areas to the north, while the southern shore displays extensive mud and sand flats. At Karools Kraal, situated 7 km from the mouth, the river is narrow and deep and runs between rocky banks interspersed with muddy bays in which there are *Zostera* beds. Below this point the river flows past Dolla se Baai and Green Point to Moddergat where the *Zostera* becomes more extensive. Port Beaufort lies on the north bank about 2 km from the mouth and Low Tide estate is opposite it on the south bank.

From this point to Witsands at the mouth the banks are mostly sand which is locally muddy and covered with a luxuriant growth of *Zostera* at the lower levels. At the mouth itself the south bank consists of wave-washed rocks which display a true marine fauna.

Six species of amphipod have been found in the estuary. Of these *Lysianassa ceratina* occurred only at the mouth and not under estuarine conditions. *Melita zeylanica* and *Orchestia rectipalma* were found throughout the system while *Grandidierella lignorum* was common amongst *Zostera* and *Talorchestia capensis* along the drift line. *Paramoera capensis* was found in the Low Tide estate area.

BRE station data

Catalogue No.	Date	Location
BRE 5	1/7/51	Drift line, Port Beaufort
BRE 13	2/7/51	<i>Zostera</i> bed, Moddergat
BRE 18	2/7/51	Drift line, Moddergat
BRE 30	3/7/51	Between Witsands and Port Beaufort
BRE 31	3/7/51	Between Witsands and Port Beaufort
BRE 34	4/7/51	Intertidal rocks, Port Beaufort
BRE 43	4/7/51	Rocks, Karools Kraal
BRE 44	5/7/51	Rocks at mouth
BRE 51	6/7/51	<i>Zostera</i> bed, Green Point
BRE 52	6/7/51	<i>Zostera</i> bed, Moddergat
BRE 55	6/7/51	Karools Kraal
BRE 56	6/7/51	Karools Kraal
BRE 57	6/7/51	Karools Kraal
BRE 71	8/7/51	<i>Zostera</i> bed, Green Point
BRE 77	8/7/51	<i>Zostera</i> bed, Dolla se Baai
BRE 81	8/7/51	From stomach of <i>Lithognathus</i>
BRE 123	5/2/52	Karools Kraal
BRE 128	5/2/52	Under stones, Karools Kraal
BRE 135	6/2/52	Among weeds, Low Tide estate
BRE 144	7/2/52	Rocks at mouth
BRE 146	8/2/52	Karools Kraal

SYSTEMATICS

Taxonomy of the Gammaridea followed here is that adopted by J. L. Barnard (1969b) and amended by J. L. Barnard (1970, 1972b), while that of the Caprellidea is modelled on the system proposed by McCain (1970). The arrangement of families, genera within each family and then of species within each genus is alphabetic. Limbs of the pereon are referred to as gnathopods 1 and 2 followed by pereopods 1-5 (while most authors use this system some number the pereopods according to the segments on which they occur, i.e. gnathopods 1 and 2 followed by pereopods 3-7). The analysis presented here is restricted

to species occurring between the drift line and 1 000 m depth, thus estuarine and beach-living species are included, while terrestrial and freshwater forms are excluded, as are those found only at abyssal depths. Holotypes of all new species have been placed in the South African Museum, Cape Town, paratypes have been retained by the University of Cape Town.

For each species at least one reference has been given to what is considered an accurate and, if possible, well-illustrated description. Full synonymies and reference lists may be found through these descriptions. Where diagnoses are provided they are intended to distinguish the species from others in the genus. Generic and familial diagnoses are to be found in J. L. Barnard (1969*b*), or may be located through McCain & Steinberg (1970), in the case of the Caprellidea.

The sample coding system used here is that employed by the University of Cape Town. Each area has its own catalogue indicated by a code of one, two or usually three letters (MB = Mossel Bay, KNY = Knysna, etc.). Each sample from that area is numbered and then each species within the sample is denoted by a letter of the alphabet. Thus each specimen bears a catalogue/-sample/species code. For example a sample from Mossel Bay is allocated to the MB catalogue. The first sample in this catalogue is MB 1 and the species from that sample called MB 1A, MB 1B, MB 1C, etc. Where the number of individual specimens is recorded this is indicated by a figure following the code in brackets. Thus MB 1D(6) indicates that six specimens of the species D were collected from station number 1 in the Mossel Bay series.

Authors working in this area in the past frequently gave collecting locations in a somewhat vague manner, e.g. 'Off Cape Agulhas' or '5 miles SE of Cape Infanta'. In presenting these records I have given the latitude/longitude square in which they were made, followed by the depth and the reference from which the records were taken. Thus 33°S/28°E/47m (Stebbing 1917) indicates that Stebbing (1917) records the species in question from the 33°S/28°E area at a depth of 47 m. In some cases material reported on by K. H. Barnard (1951, 1955, 1957) was derived from University of Cape Town collections and in these cases only the University code is given.

Suborder GAMMARIDEA

Family Acanthonotozomatidae

Cypsiphimidia gibba K. H. Barnard, 1955

Cypsiphimidia gibba K. H. Barnard, 1955: 88, fig. 43.

Records: LIZ 40G(1).

Diagnosis: Pereon segment 1 swollen, its front margin nearly horizontal such that the head projects vertically downwards; coxa 1 partially concealed by 2; body entirely smooth; gnathopod 1 minutely chelate; gnathopod 2 subchelate; telson short, apically incised.

Distribution: The above record is the only one to date.

Dikwa n. gen.

Diagnosis: Upper lip slightly emarginate; mandible short and broad, with an acute apex, spine row and large molar; lobes of lower lip not incised; palp of maxilla 1 bi-articulate, exceeding outer plate; maxillipedal palp 4-articulate, exceeding outer plate, article 2 of palp not produced; gnathopod 1 chelate; gnathopod 2 simple; telson emarginate.

Type species: *Dikwa acrania* n. sp.

Relationships: The combination of chelate gnathopod 1 and simple gnathopod 2, together with the unusual mandible, demands the erection of this new genus.

Dikwa acrania n. sp.

Fig. 2

Description of female (3 mm): Head greatly reduced, shorter than first pereon segment and consisting largely of a rounded downturned rostrum (Fig. 2A), eyes absent; upper lip emarginate; mandible (Fig. 2C) short and broad with a 3-articulate palp, articles 1 and 2 of palp subequal, their surfaces markedly ridged, article 3 of palp the longest, a row of 14 strong setae along its medial margin, incisor consisting of a sharp projection, lacinia mobilis apically bifurcate, spine row of 13 strong spines, molar fairly large; lower lip not incised; maxilla 1 with bi-articulate palp exceeding outer plate, its distal margin setose, outer plate terminating in eight strong serrate spines, inner plate bearing three terminal setae; maxilliped with 4-articulate palp exceeding outer plate, none of the articles distally produced, outer plate bearing a distal row of eight plumose setae and a few simple setae, inner plate bearing a marginal and three sub-marginal rows of minute pectinations; antennae subequal, slightly shorter than pereon; article 1 of antenna 1 twice as wide as article 2 and as long as 2 and 3 together, apically lobed to partially envelop article 2, flagellum 14-articulate, accessory flagellum absent; flagellum of antenna 2 15-articulate.

Coxae complex (Fig. 2A) but generally very thick and acuminate, coxa 7 very elongate and distally produced into an acute backwardly curved tooth; pereon dorsally carinate, the carinae on pereon segments 6 and 7 produced into teeth; gnathopod 1 (Fig. 2G) slender, chelate, article 2 with a small protuberance on anterior margin, article 3 elongate, 6 as long as 3-5 together; gnathopod 2 (Fig. 2H, I) very elongate and slender, simple, article 3 elongate, 7 tapering to an acute point which bears hooked setae; pereopods 1 and 2 powerful, article 4 slightly produced antero-distally; pereopods 3 and 4 with article 2 greatly lobed postero-distally so as to obscure most of articles 3 and 4; (pereopod 5 missing on both sides).

Pleon segments strongly carinate mid-dorsally, each with a pair of latero-dorsal humps; first pleonal epimeron postero-distally produced into a rounded lobe, the second acutely produced, a rounded lobe in centre of posterior margin; third pleonal epimeron postero-distally rounded, slightly produced; urosome

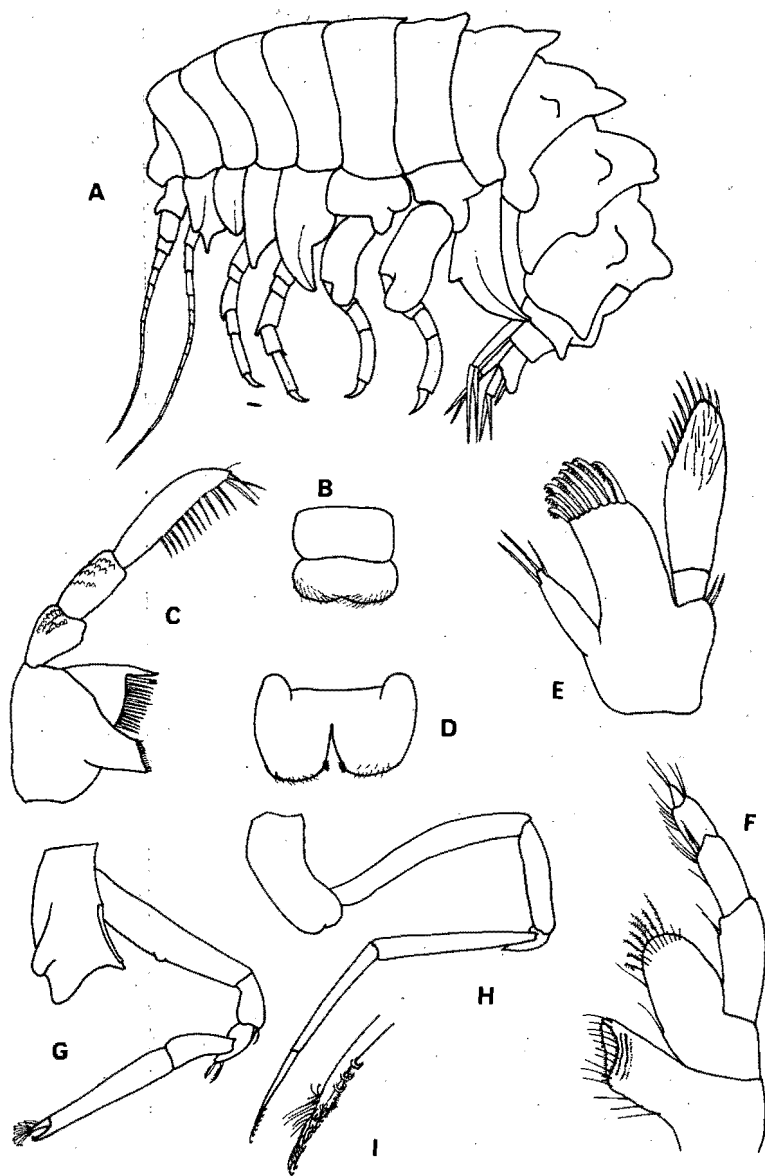


Fig. 2. *Dikwa acrania* n. gen., n. sp.
 Female, 3 mm; A—lateral aspect; B—upper lip; C—mandible; D—lower lip;
 E—maxilla 1; F—maxilliped; G—gnathopod 1; H—gnathopod 2; I—tip of
 article 7 of gnathopod 2 enlarged.

strongly deflexed beneath pleon, segment 1 longer than 2 plus 3 and bearing a medio-dorsal and a pair of latero-dorsal humps, segments 2 and 3 smooth; uropods elongate, unarmed, rami narrow-lanceolate, projecting equally; telson slightly longer than broad, apically emarginate.

The entire integument appears to be composed of small plates, in places bearing a resemblance to the scales of a fish.

Colour: Uniform white (as preserved in 70% alcohol).

Holotype: SAM A13213, female, 3 mm.

Type locality: SST 11W, 32°22'S/22°31'E, 20 June 1972, depth 200 m, substrate coarse khaki sand.

Remarks: This unusual species can easily be recognized by the markedly reduced head. In life the antennae are flexed beneath the pereon so that the animal appears to have had its head broken off.

Material: 2 ♀♀ from the type locality.

Iphimedia capicola K. H. Barnard, 1932

Iphimedia capicola K. H. Barnard, 1932; 118, fig. 66.

Records: SCD 160B(1), SCD 181T (1), SCD 216N(1); SST 16M(4).

Diagnosis: Rostrum acute, downturned; article 1 of antenna 1 terminating in one dorsal and two ventral teeth, flagellum 12-articulate; pereon segments 1 and 7 much longer than other segments; pereon segment 7 and pleon segments 1-3 each with a pair of procumbent dorsal teeth; pleon segments dorsally keeled; postero-distal corner of third pleonal epimeron produced into an upturned tooth, a second upturned tooth on posterior margin of the epimeron; telson apically truncate, a pair of small denticles on each margin near the apex.

Distribution: Endemic to south and west coasts of South Africa.

Family Ampeliscidae

Ampelisca acris n. sp.

Fig. 3

Ampelisca excavata: K. H. Barnard, 1955: 82, fig. 40A.

(non) *Ampelisca excavata* K. H. Barnard, 1925: 336, pl. 34, figs 5-7. Gray & J. L. Barnard, 1970: 67-83, figs 1-5, pl. 1.

Description of female (11 mm): Head as long as two pereon segments (Fig. 3A), antero-ventral margin oblique; two pairs of eyes with corneal lenses, the lower pair just behind lateral angles of head, a small pigment spot behind upper eye; antenna 1 extending well beyond peduncle of antenna 2, flagellum 19-articulate;

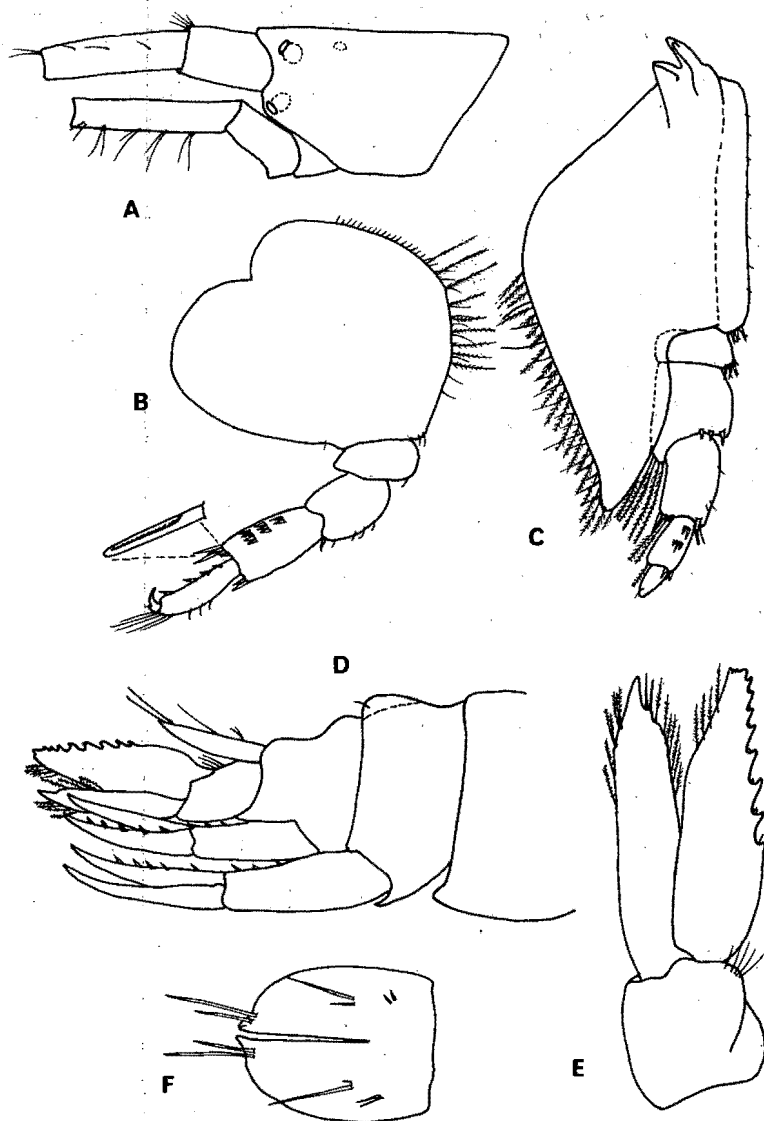


Fig. 3. *Ampelisca acris* n. sp.
Female, 11 mm: A—head; B—pereopod 3; C—pereopod 5; D—lateral view of urosome; E—uropod 3; F—telson.

antenna 2 about half length of body, flagellum 20-articulate; mandibular palp borne on a large process, article 1 half as long as 2, article 3 60% length of 2, spine row of nine spines; outer plate of maxilla 1 with 11 spines, palp terminating in four cusp teeth, four blunt spines and about 10 setae; inner plate of maxilliped extending to tip of article 1 of palp, armed with two blade-like spines, outer plate bearing 10 spines ranging from short and blade-like proximally to long and evenly tapering distally.

Gnathopod 1 moderately setose, article 6 ovate, half as wide as long; dactyl less than half length of article 6 and bearing three accessory setae; gnathopod 2 more slender than 1, article 6 half length of 5, dactyl less than half article 6 and bearing six accessory setae; pereopod 1 not heavily setose, article 4 with antero-distal angle slightly produced, article 7 equal to 5 plus 6; coxae 1-3 each with a postero-distal tooth; article 2 of pereopod 3 (Fig. 3B) as wide as long, article 5 bearing four rows of spines posteriorly, the spines in the terminal row serrate, article 6 with a row of four spines along its hind margin, dactyl bifurcate; pereopod 4 very like 3 but with a shorter article 6 which bears spines on its anterior as well as posterior margin; pereopod 5 (Fig. 3C) with an unusual article 2 projecting to an acute point in line with the distal end of article 5, posterior margin slightly concave distally, anterior edge of the lobe partially obscuring articles 3 and 4, article 4 almost twice length of 3, its postero-distal corner slightly produced and bearing four plumose setae, article 5 equal to 4 and bearing an antero-distal spine and a postero-distal group of three spines and two plumose setae, article 6 slightly shorter than 5, two groups of spines on outer margin, article 7 short and wide.

Third pleonal epimeron very slightly produced postero-distally; pleon segment 4 weakly crested dorsally (Fig. 3D); uropod 1 projecting to end of uropod 2, rami equal, subequal to peduncle, inner ramus dorsally spinose; rami of uropod 2 equal, the outer dorsally spined; uropod 3 (Fig. 3E) with equal rami, the outer slightly the more slender, apically acute and setose on both margins, inner ramus with its upper margin cut into eight strong cusps, a minute accessory tooth in each hollow, tip of ramus serrate, its lower-distal margin bearing four plumose setae; telson 70% cleft (Fig. 3F), each lobe bearing 2 long apical setae and with two pairs of smaller setae on the dorsal surface.

Holotype: SAM A13206, female, 11 mm.

Type locality: MB 50Q, 34°11'S/22°09'E, 17 January 1956, depth 10 m, substrate rocky.

Relationships: There has been considerable confusion in the past between this species and *Ampelisca excavata* K. H. Barnard, 1925. K. H. Barnard's description of *A. excavata* was based on a single specimen, and when larger specimens of an apparently similar form were collected he ascribed these to the same species, concluding that his original specimen must have been abnormal (K. H. Barnard 1955).

Subsequently it has been found that these two batches of material represent distinct species. K. H. Barnard's original *A. excavata* has been redescribed in great detail by Gray & J. L. Barnard (1970) while his 1955 material is hereby renamed *Ampelisca acris* n. sp.

As can be readily appreciated by comparing Figure 3 with the illustrations in Gray & J. L. Barnard (1970), the two forms are quite distinct. *A. excavata* is altogether a stouter species with a bifurcation at the tip of article 2 of pereopod 5, a reduced inner ramus of uropod 1 and heavily chitinated rami on uropods 2 and 3. As well as differing in the structural features mentioned above, the two species can be distinguished by their modes of life, *A. acris* being a free-living tube builder, whereas *A. excavata* appears to be restricted to cirripede burrows in the shells of large molluscs such as *Turbo sarmaticus* Linn. and *Haliotis midae* Linn.

Material: SCD 160G(2); LIZ 17E(4); MB 50Q(3), MB 54X(1), MB 66V(1).

Ampelisca anisuropa (Stebbing, 1908)

Byblis anisuropus Stebbing, 1908a: 72, pl. 10. K. H. Barnard, 1955: 82, fig. 40B.

Ampelisca anisuropa: Griffiths, 1974a: 220.

Records: SCD 104X(1), SCD 173X(1), SCD 188D(2), SCD 204K(3), SCD 211Z(1), SCD 232C(4), SCD 321Q(2), SCD 392U(2); SST 5J(1), SST 9F(1), SST 16E(2); 33°S/28°E/86 m (Stebbing 1908a).

Distribution: Endemic, Natal to west coast of South Africa.

Ampelisca anomala Sars, 1882

Ampelisca anomala: Sars, 1895: 178, pl. 62, fig. 2.

Records: SCD 24J(1), SCD 41L(4); LIZ 29Q; MB 57E(1), MB 50R(1).

Diagnosis: Head with post-antennal corner acute; two pairs of eyes with large corneal lenses, the lower pair directed laterally; antennae fairly long, antenna 1 half as long as body, 2 slightly shorter than body; none of coxae with distal teeth; article 2 of pereopod 5 distally rounded, 3 longer than 4, 4 not produced distally, 6 equal to 4 plus 5, 7 of moderate size; third pleonal epimeron quadrate postero-distally; pleon segment 4 with a distinct triangular dorsal carina; telson 80% cleft, a single spinule at apex of each lobe.

Distribution: Scandinavia, South Africa.

Ampelisca brevicornis (Costa, 1853)

Ampelisca brevicornis: Reid, 1951: 204–210, figs 9–15. Kaim Malka, 1969: 928–932, pls 1–6.

Records: SCD 24K(9), SCD 95C(1), SCD 103W(1), SCD 122E(1), SCD 148K(4), SCD 160F(1), SCD 198E(1), SCD 202E(1), SCD 219F(3), SCD 222H(15), SCD 225H(12), SCD 244B(155), SCD 248H(20), SCD 257M(5), SCD 276M(3),

SCD 278J(3), SCD 315V(102), SCD 329V(2), SCD 338L(5), SCD 343T(1), SCD 349R(1), SCD 353M(1), SCD 366T(1), SCD 368V(1), SCD 370K(6), SCD 379N(1), SCD 381P(1), SCD 391F(4); SST 29E(42), SST 32F(5), SST 34F(14), SST 40S(10), SST 41N(1), SST 45D(8), SST 62M(2), SST 65B(4), SST 68N(2); 34°S/22°E/?m (K. H. Barnard 1916).

Distribution: Cosmopolitan.

Ampelisca chiltoni Stebbing, 1888

Ampelisca chiltoni: J. L. Barnard, 1961: 61, fig. 31.

Records: SCD 160E(1), SCD 232A(2), SCD 262G(1), SCD 356N(22), SCD 359A(1), SCD 392X(15); SST 1D(10), SST 5B(24), SST 9C(16), SST 16F(8), SST 47H(1); LIZ 32W(11); 32°S/28°E/86 m (Stebbing 1918).

Distribution: Australia, New Zealand, South Africa.

Ampelisca diadema (Costa, 1853)

Ampelisca diadema: Chevreux & Fage, 1925: 82, fig. 74.

Records: LIZ 32X(11).

Distribution: Europe, southern Africa.

Ampelisca fusca Stebbing, 1888

Ampelisca fusca Stebbing, 1888: 1052, pl. 105.

Records: SCD 181J(26), SCD 204L(20), SCD 235X(3), SCD 253G(1), SCD 269S(1), SCD 273E(1), SCD 300P(34), SCD 302T(1), SCD 321R(1); SST 19A(230), SST 24A(260), SST 34P(7).

Distribution: Endemic, Moçambique to South West Africa.

Ampelisca natalensis K. H. Barnard, 1916

Ampelisca natalensis K. H. Barnard, 1916: 132, pl. 26, fig. 7.

Records: LIZ 19P(1), LIZ 29O(1).

Distribution: Endemic, Natal to Port Elizabeth.

Ampelisca palmata K. H. Barnard, 1916

Ampelisca palmata K. H. Barnard, 1916: 136, pl. 28, figs 30–31.

Records: SCD 41M(6), SCD 93M(1), SCD 115F(2), SCD 141V(2), SCD 188C(10), SCD 192V(1250), SCD 193W(2), SCD 198F(3), SCD 204M(14), SCD 219G(7), SCD 232B(1), SCD 235W(17), SCD 248J(70), SCD 321P(1),

SCD 343R(47), SCD 356P(12), SCD 376L(7), SCD 381Q(1), SCD 383T(2), SCD 392Y(1); SST 56S(1); MB 10Q(1); ZZ 3U; 32°S/28°E/94 m (K. H. Barnard 1916).

Distribution: Senegal to Moçambique.

Ampelisca spinimana Chevreux, 1887

Ampelisca spinimana: Chevreux & Fage, 1925; 81, fig. 73.

Records: SST 45J(4); KNY 245H(1); BMR 23T(1).

Distribution: Europe, West and South Africa.

Byblis gaimardi (Kröyer, 1846)

Byblis gaimardi: Mills, 1971: 367–370, figs 6A, 7.

Records: SCD 300R(4), SCD 302X(1); 32°S/28°E/94 m (K. H. Barnard 1916).

Distribution: Arctic, North Atlantic, ? Pacific, South Africa.

Family Amphilochidae

Cyproidea ornata Haswell, 1880

Cyproidea ornata: J. L. Barnard, 1972a: 21, figs 4, 5.

Records: SCD 216D(13); J 11F; K 8P; E 223; L 504; Port Alfred, East London (K. H. Barnard 1940).

Distribution: Indo-Pacific, extending to South West Africa.

Gitanopsis mariae Griffiths, 1973

Gitanopsis mariae Griffiths, 1973: 275, fig. 4.

Records: SST 11X(5), SST 24Q(1).

Distribution: Endemic, Moçambique to Still Bay.

Gitanopsis pusilla K. H. Barnard, 1916

Gitanopsis pusilla K. H. Barnard, 1916: 144.

Records: SCD 55K(1), SCD 74J(2), SCD 173Y(28), SCD 198Y(3), SCD 392Z(1); SST 32M(1), SST 37W(4); HAV 3C(1); SS 55C; Still Bay (K. H. Barnard 1940).

Distribution: Southern Atlantic, southern Indian Ocean.

Hoplopleon medusarum K. H. Barnard, 1932

Hoplopleon medusarum K. H. Barnard, 1932: 105, fig. 54.

Records: SCD 338K(1); SST 16B(3).

Distribution: Endemic, south coast of South Africa to South West Africa.

Family **Ampithoidae***Ampithoe africana* K. H. Barnard, 1925

Ampithoe africana K. H. Barnard, 1925: 361.

Records: KNY 166F; Y 12G; East London (K. H. Barnard 1925).

Distribution: Endemic, Natal to Knysna.

Ampithoe falsa K. H. Barnard, 1932

Ampithoe brevipes: K. H. Barnard, 1916: 255, pl. 28, fig. 34.

Ampithoe falsa: Ruffo, 1969: 57, figs 18–20.

Records: LLL 6L; SS 55H; Still Bay (K. H. Barnard 1940).

Distribution: Indian Ocean.

Ampithoe ramondi (Audouin, 1826)

Ampithoe intermedia: Stebbing, 1910a: 462.

Ampithoe vaillanti: K. H. Barnard, 1916: 253.

Ampithoe ramondi: J. L. Barnard, 1970b: 50, figs 18, 19.

Records: SCD 20U(1); MB 10S(1), MB 40L(3), MB 58Q(1), MB 59F(1); LIZ 40F; L 493B; 33°S/26°E/18–29 m (Stebbing 1910a).

Distribution: Circumtropical.

Cymadusa filosa Savigny, 1818

Grubia australis K. H. Barnard, 1916: 258.

Cymadusa australis: K. H. Barnard, 1940: 480.

Cymadusa filosa: J. L. Barnard, 1955: 29, fig. 15.

Records: KNY 6L, KNY 11H, KNY 30A, KNY 122A, KNY 128A, KNY 139C(9), KNY 162A, KNY 179D(10), KNY 245G(4), KNY 283K(3); Knysna Lagoon (K. H. Barnard 1940).

Distribution: Circumtropical.

Macropisthopus stebbingi K. H. Barnard, 1916

Macropisthopus stebbingi K. H. Barnard, 1916: 260, pl. 28, figs 15–17.

Records: ZZ3R; SS 55K; Port Elizabeth (K. H. Barnard 1916); Still Bay (K. H. Barnard 1940).

Diagnosis: This species is the only representative of the genus, which is diagnosed as follows: antenna 1 without accessory flagellum; mandible with palp; both

gnathopods very feebly chelate; article 6 of pereopods 3–5 scarcely widened; pereopod 5 greatly enlarged, flattened; outer ramus of uropod 3 bearing two large hooks.

Distribution: South coast of South Africa.

Family Cheluridae

Chelura terebrans Philippi, 1839

Chelura terebrans: Chevreux & Fage, 1925: 371, figs 379, 380.

Records: Port Elizabeth harbour (Stebbing 1910a).

Diagnosis: Head with large frontal process; pleon segment 1 with large medio-dorsal posteriorly directed process; urosome segments fused; uropods differing radically from one another in size and form; uropod 2 with short subequal rami, peduncle with large marginally setose winglike lobe; uropod 3 enormous, outer ramus very large, inner ramus small.

Distribution: Cosmopolitan.

Family Colomastigidae

Colomastix keiskama n. sp.

Fig. 4

Description of male (4 mm): Head with anterior keel projecting between the antennae, eyes of moderate size, brown (in alcohol), lateral cephalic lobes evenly rounded; antenna 1 lacking spines, articles 1–3 each with a pair of ventral keels distally produced into small teeth, flagellum of a single terminally setose article; antenna 2 smooth, slightly shorter than 1; mandible (Fig. 4B) cut into five strong teeth, the first terminally bifurcate; maxilliped (Fig. 4C) with inner plates coalesced, outer plates each bearing a single terminal seta.

Coxae 1–6 smoothly rounded, oval, coxa 6 produced posteriorly into a semi-acute point (Fig. 4A); articles 5 and 6 of gnathopod 1 subequal, article 6 terminating acutely in about five setae; article 2 of gnathopod 2 faintly crenulate anteriorly, article 5 unusually large, bearing a wide setose posterior lobe, article 6 not more than 1.5 times the size of 5, as wide as long, palm about equal to hind margin, defined by three small cusps and bearing two subequal teeth near finger hinge, dactyl equal to palm; pereopod 3 smaller than 4 or 5, article 2 oval.

Pleonal epimeron 1–3 broadly rounded; uropod 1 with inner ramus terminating in a strong blade-like spine about 50 per cent length of body of ramus; uropods 2 and 3 projecting about equally and well beyond the tip of uropod 1, inner ramus of each marginally the longer and with its upper margin finely serrate; telson smoothly rounded (Fig. 4D).

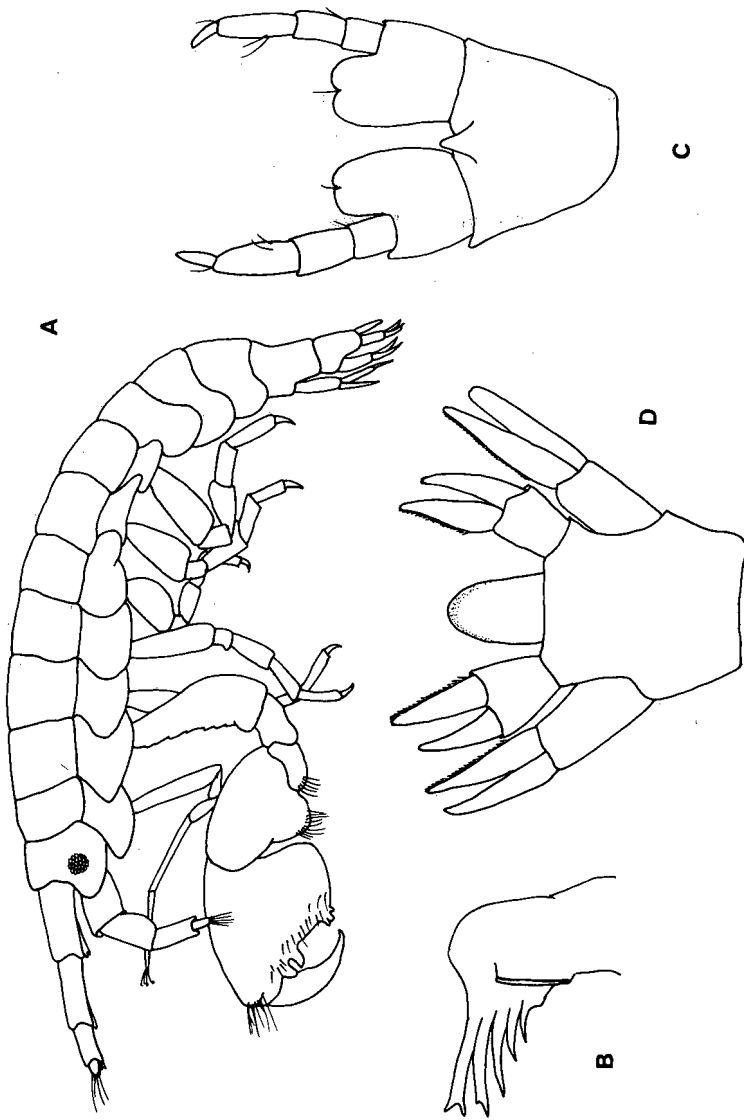


Fig. 4. *Colomastix keiskama* n. sp.
Male, 4 mm: A—lateral aspect; B—maxilliped; C—mandible; D—fused urosomites 2 and 3 and telson in dorsal view.

Holotype: SAM A13208, male, 4 mm.

Type locality: SCD 179J, 33°59'S/25°41'E, 24 November 1960, depth 4–11 m, substrate rocky.

Relationships: The second gnathopod and first uropod are of most unusual structure and immediately distinguish this species from its relatives. Other species with equal rami of uropod 3 and an unsculptured telson include *C. pusilla*

Grube and *C. simplicicauda* Nicholls but their second gnathopods are quite different from those of *C. keiskama* n. sp.

Material: SCD 179J, a single male.

Colomastix pusilla Grube, 1864

Colomastix pusilla: J. L. Barnard, 1971: 55, fig. 24.

Records: SCD 159U(20).

Distribution: Cosmopolitan in tropical and temperate seas.

Family **Corophiidae**

(Revised J. L. Barnard 1972b)

Aora typica Kröyer, 1845

Aora typica: J. L. Barnard, 1969b: 148, fig. 63.

Records: SCD 62C(1), SCD 118N(1), SCD 135D(1), SCD 148J(2), SCD 159Y(3), SCD 181V(4), SCD 198H(2), SCD 208G(1), SCD 225J(4), SCD 232D(1), SCD 244K(2), SCD 257H(5), SCD 276Q(2), SCD 287C(2), SCD 310H(1), SCD 321T(1), SCD 326K(1), SCD 338H(3), SCD 339R(2), SCD 353P(3), SCD 368V(1), SCD 379M(1), SCD 381S(6), SCD 392Z(2); SST 16P(1), SST 32B(1), SST 34J(1), SST 37U(5); LIZ 29R(2); T 13J; SS 55G.

Distribution: Cosmopolitan.

Camacho bathyplous Stebbing, 1888

Camacho bathyplous: J. L. Barnard, 1961: 115, figs 81, 82.

Records: 33°S/28°E/86 m (Stebbing 1908a).

Diagnosis: This genus is monotypic, the diagnosis being: antenna 1 elongate, greatly exceeding antenna 2, article 1 much longer than 3, accessory flagellum multi-articulate; mandibular palp 3-articulate; coxae short, serially discontinuous; gnathopods subchelate, uropods biramous, the third with inner ramus 30% length of outer.

Distribution: Indo-Pacific.

Cerapus tubularis Say, 1818

Cerapus abditus: K. H. Barnard, 1916: 271.

Cerapus tubularis: J. L. Barnard, 1962: 61, figs 27, 28.

Records: SCD 41K(3), SCD 60H(4), SCD 81B(1), SCD 159Z(1), SCD 244A(25), SCD 257J(3), SCD 262M(1), SCD 267L(2), SCD 312P(5), SCD 338E(1), SCD 342F(4), SCD 343V(4), SCD 353C(20); SST 32E(1); LIZ 13U(1).

Distribution: Cosmopolitan in warm and temperate seas.

Cheiriphotis megacheles (Giles, 1885)

Cheiriphotis megacheles: J. L. Barnard, 1962: 17, fig. 4.

Records: SCD 20M(10), SCD 20L(2), SCD 34D(1), SCD 34G(1), SCD 60J(20), SCD 62A(C), SCD 64B(C), SCD 81D(2), SCD 95J(18), SCD 124U(4), SCD 124V(1), SCD 189R(38), SCD 192Y(1), SCD 257G(101), SCD 278K(2), SCD 282S(10), SCD 283F(18), SCD 285S(4), SCD 312Q(7), SCD 329W(2), SCD 332S(15), SCD 338G(181), SCD 339Q(9), SCD 353F(14), SCD 379J(10), SCD 383V(1), SCD 391K(1); SST 45F(2); LIZ 3Z(12), LIZ 31S(1); MB 4U(4), MB 5H(4), MB 28G(8), MB 33N(1), MB 45E(1), MB 46F(1), MB 59H(1), MB 71K(2), MB 73M(7), MB 75K(4), MB 77Q(3), MB 80D(6).

Distribution: Indo-Pacific.

Chevalia aviculae Walker, 1904

Chevalia aviculae: J. L. Barnard, 1971: 88, fig. 42.

Records: SCD 62D(1), SCD 99N(4), SCD 181U(2), SCD 244J(5), SCD 302V(1), SCD 304R(18), SCD 308J(1), SCD 311J(2), SCD 366X(1); SST 16A(9), SST 19H(1), SST 24L(6), SST 47E(1); 34°S/23°E/230 m (K. H. Barnard 1916).

Distribution: Cosmopolitan in tropical and temperate seas.

Concholestes armatus n. sp.

Figs 5, 6

Description of male (6 mm): Ocular lobes of head strongly produced obliquely downwards, eyes small, black; antennae very large (Fig. 5A), 1 slightly shorter than body, articles 1 and 2 subequal, longer than 3, flagellum 12-articulate; antenna-2 longer than body, very sturdy, used to drag the animal and its *Dentalium* shell abode across the sea floor, flagellum of one long and one short article; mandible (Fig. 6A) bearing large molar composed of rows of sharp tubercles, palp uni-articulate, bearing long plumose setae; maxilla 1 (Fig. 6B) with bi-articulate palp, article 2 terminating in six strong serrate spines, outer plate also ending in six strong serrate spines, inner plate smooth; plates of maxilla 2 subequal, the inner with an oblique row of 16 setae medially (Fig. 6C), both plates terminally setose; maxilliped (Fig. 6D) with 4-articulate palp, inner plate with three terminal blade spines, outer plate with proximal spines blade-like, the more distal ones becoming longer and more slender.

Coxae 1 and 2 produced forwards, marginally setose; gnathopod 1 simple (Fig. 5B), article 5 longer than 6, dactyl extremely large, bearing seven strong spines along its posterior margin; gnathopod 2 (Fig. 5C) subchelate, article 2 broad, six very strong spines and one small one forming a comblike row along anterior margin, article 3 bearing two anterior spines, article 6 longer than 5,

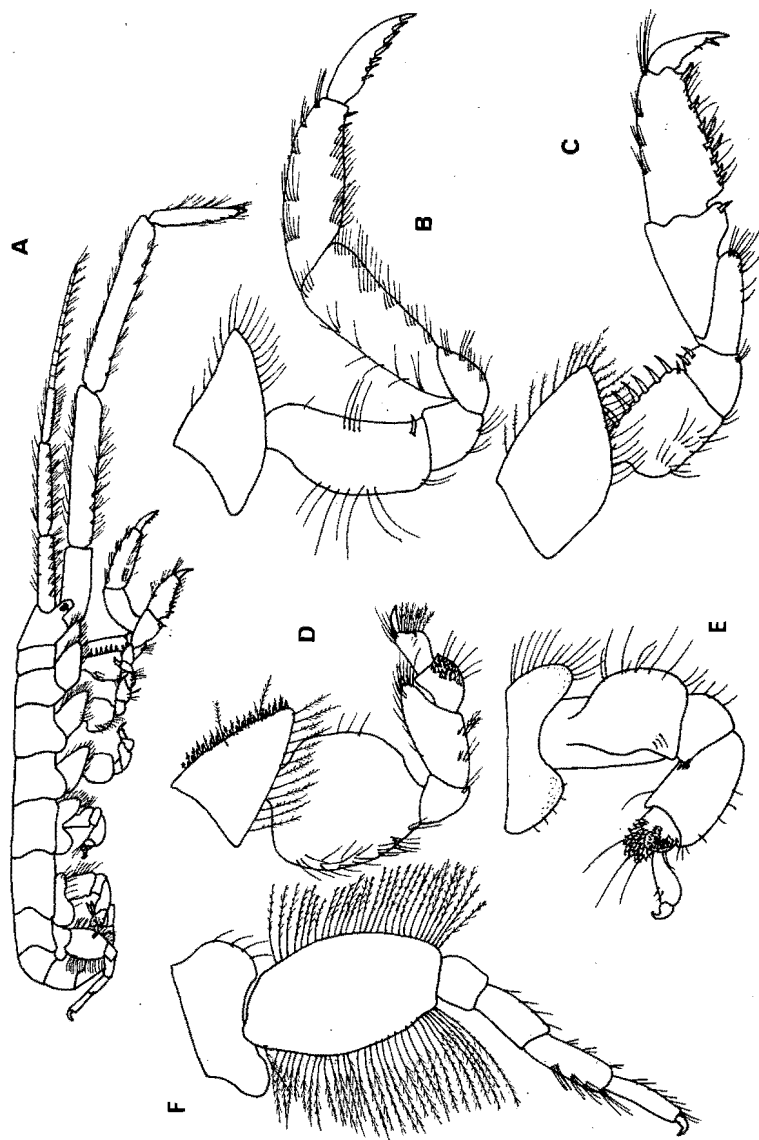


Fig. 5. *Cancholestes armatus* n. sp.
Male, 6 mm: A — lateral aspect; B — gnathopod 1; C — gnathopod 2; D — pereiopod 1; E — pereiopod 3; F — pereiopod 5.

widest at its base, palm spinose, dactyl shorter than palm, bearing a distal spine; coxa 3 anteriorly lined by a row of short spines and setae, posterior margin lined by long plumose setae; article 2 of pereiopod 1 subcircular (Fig. 5D), article 5 posteriorly covered in short thick spines; coxa 4 triangular, not spinose; pereiopod 2 like 1; pereiopod 3 small, directed posteriorly (Fig. 5E), article 5 bilobed, outer lobe covered in minute spines, inner lobe bearing many large hooked spines; pereiopod 4 similar to 3 but somewhat larger; pereiopod 5 (Fig. 5F) elongate, article 2 strongly setose.

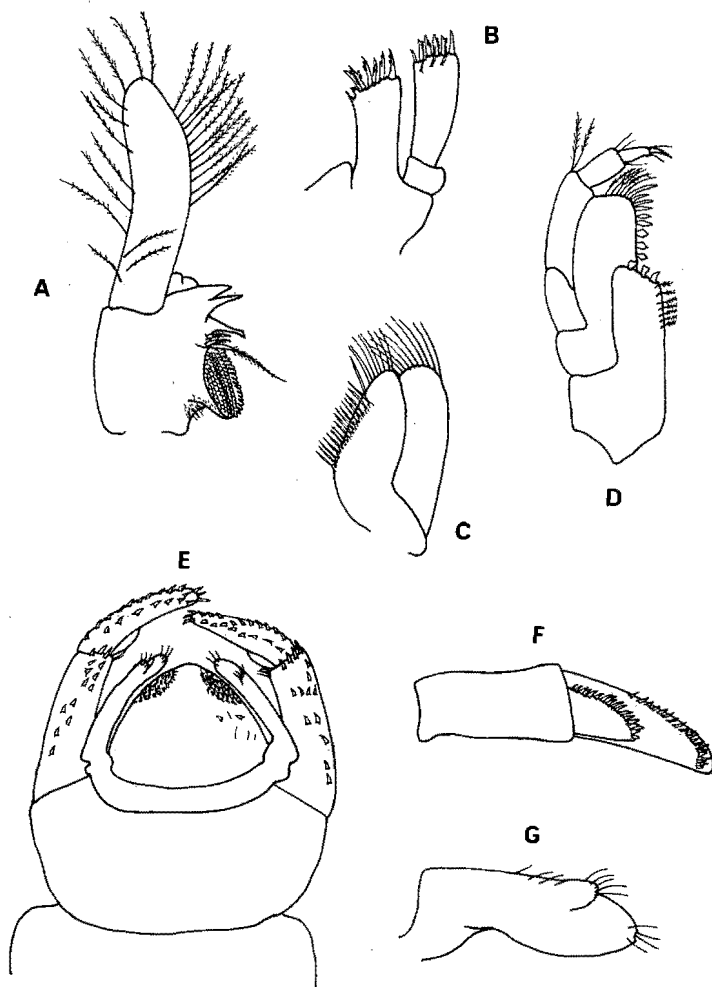


Fig. 6. *Concholestes armatus* n. sp.

Male, 6 mm: A—mandible; B—maxilla 1; C—maxilla 2; D—maxilliped; E—dorsal view of urosome; F—ventral view of uropod 1; G—uropod 2 as seen laterally.

Pleonal epimera rounded, setose; urosome (Fig. 6E) reduced, tucked between pereopods, only two segments present; segment 1 bearing a pair of large biramous uropods, both peduncle and rami heavily spinose (Fig. 6E, F), inner ramus 50% length of outer; second urosome segment less than half length of first, bearing a pair of laterally flattened uropods represented by a distally bilobed peduncle (Fig. 6E, G); telson very large, squamous, laterally strongly spinose.

Female: Ovigerous at 4 mm: the eggs are restrained by the pereopods which angle in ventrally to form a tunnel beneath the body, the brood lamellae are

reduced to narrow lobes. In one case newborn young were found to occupy the narrow end of a *Dentalium* shell in which a large female was living.

Holotype: SAM A13207, male, 6 mm (13 mm including antennae).

Type locality: SST 1B, 35°22'S/22°31'E, 20 June 1972, depth 200 m, substrate coarse khaki sand.

Relationships: This species closely resembles *C. dentali* Giles in its habits and in its unusually strong antennae and reduced third uropods. Unfortunately, however, Giles's description of the urosome of his species is unclear and he fails to describe its mandibular palp. The urosome is described as follows: '4th abdominal appendage biramous; 6th blunt, rounded, without rami, nearly hidden beneath the squamous telson . . . of the fifth abdominal appendage I have been unable to obtain a satisfactory view, it is small and its peduncle is very short, though of considerable width. The ramus appears to be single and rounded.'

Despite his mention of a third uropod Giles's figure of the urosome (also reproduced by J. L. Barnard, 1969b) shows only two urosome segments and two pairs of uropods. Assuming Giles's verbal description of this unexpected and difficult to observe urosome to be erroneous, I have not erected a new genus for my species, especially since the chances of two distantly related forms occupying an identical niche seem remote. Should re-examination of *C. dentali* reveal a third urosomite or a mandibular palp of more than 1 article, this would necessitate the erection of a new genus for *C. armatus*.

Material: SST 1B(4), SST 5A(1), SST 11N(7).

Corophium acherusicum Costa, 1857

Corophium acherusicum: J. L. Barnard, 1971: 59, figs 17, 26.

Records: LIZ 1K(2); MB 87N(1).

Distribution: Cosmopolitan in tropical and temperate seas.

Corophium triaenonyx Stebbing, 1904

Corophium triaenonyx Stebbing, 1904: 25, pl. 6A.

Records: SUN 5E(1); BMR 25G(2); HAV 3A(A), HAV 5B(2), HAV 7N(C), HAV 10D(C), HAV 18K(C); KNY 112B, KNY 139D, KNY 160A, KNY 166E, KNY 176D, KNY 181B, KNY 184B, KNY 191E; GBR 23D, GBR 37B(14), GBR 46A(2); STJ 15J(P), STJ 16G(C), STJ 26B(C), STJ 27L(2), STJ 31T(A), STJ 32B(C); Keurbooms River, Plettenberg Bay, Knysna (K. H. Barnard 1940).

Distribution: Atlantic, Mediterranean, Indian Ocean.

Erichthonius brasiliensis (Dana, 1853)

Erichthonius brasiliensis: J. L. Barnard, 1971: 61, fig. 17E.

Records: LIZ 40E(10); MB 40V(1), MB 50W(C), MB 87B(4); KNY 139E; L 458B; 32°S/26°E/18–29 m (Stebbing 1910a).

Distribution: Cosmopolitan in tropical and temperate seas.

Gammaropsis afra Stebbing, 1888

Eurystheus afer: Stebbing, 1910a: 461.

Gammaropsis afra: J. L. Barnard, 1970b: 170, fig. 108.

Records: 33°S/28°E/86 m, 33°S/26°E/18–29 m (Stebbing 1908a).

Distribution: Circumtropical.

Gammaropsis atlantica Stebbing, 1888

Eurystheus atlanticus: Stebbing, 1910a: 461.

Gammaropsis atlantica: J. L. Barnard, 1971: 91, figs 43–45.

Records: SCD 10S(4), SCD 34C(3), SCD 55D(1), SCD 81A(1), SCD 93P(1), SCD 95A(50), SCD 102D(3), SCD 103T(1), SCD 128Q(3), SCD 172V(1), SCD 181X(1), SCD 185J(1), SCD 204R(1), SCD 208K(5), SCD 222L(1), SCD 269R(2), SCD 280K(1), SCD 300Q(5), SCD 302P(26), SCD 304Q(1), SCD 319X(4), SCD 321N(3), SCD 324G(3), SCD 328G(1), SCD 345S(2), SCD 352A(2), SCD 353A(24), SCD 392R(13); SST 5G(4), SST 16D(4), SST 24C(1); LIZ 37L(2), LIZ 40B(2); MB 50X(1), MB 61U(C), MB 66P(1), MB 87D(5), MB 86C(1); 33°S/28°E/86 m, 33°S/26°E/18–29 m (Stebbing 1908a).

Distribution: Circumtropical.

Gammaropsis holmesi (Stebbing, 1908)

Eurystheus holmesi Stebbing, 1908a: 85, pl. 14A.

Eurystheus semidentatus K. H. Barnard, 1916: 250, pl. 28, figs 13, 14.

Records: SCD 62E(2), SCD 135K(1); LIZ 40H(2); 33°S/26°E/18–29 m (Stebbing 1908a).

Distribution: Endemic, Natal to Saldanha Bay.

Grandidierella bonnieroides Stephensen, 1948

Grandidierella bonnieri: Ledoyer, 1967: 137, fig. 28A. Griffiths, 1973: 283; 1974b: 228.

(non) *Grandidierella bonnieri* Stebbing, 1908b: 120, pl. 16.

Grandidierella bonnieroides: Myers, 1970: 141, figs 1, 2.

Records: STJ 6A(A).

Distribution: Indian Ocean, Caribbean.

Remarks: Myers (1970) re-examined Stebbing's type material of *G. bonnieri* and found it to have only a single distal tooth on article 5 of gnathopod 1, as compared with the three distal teeth present in the material of Ledoyer and

Griffiths. These records are thus transferred to *G. bonnieroides* Stephensen. Myers further points out that different populations of *G. bonnieroides* from differing locations show variation in sternal armature, and that this factor is thus not of taxonomic significance.

Grandidierella chelata K. H. Barnard, 1951

Grandidierella chelata K. H. Barnard, 1951: 708, fig. 7.

Records: HAV 7H(A), HAV 17A(A); STJ 14A(A), STJ 15G(A), STJ 16H(P), STJ 27J(P).

Distribution: Endemic, Port St. Johns to South West Africa.

Grandidierella lignorum K. H. Barnard, 1935

Grandidierella lignorum K. H. Barnard, 1935: 300, fig. 14.

Records: BMR 23S(4), BMR 25J(1), BMR 26U(1); HAV 3B(C), HAV 9A(5), HAV 13K(A); KNY 101A, KNY 184A; GBR 46C(2); BRE 51M(3), BRE 52M(7), BRE 71M(C), BRE 77H(3), BRE 81A(C); STJ 8A, STJ 14B(P), STJ 15H(P), STJ 24K(P), STJ 27K(P); Keurbooms River, Plettenberg Bay (K. H. Barnard 1940).

Distribution: Estuaries around the Indian Ocean.

Lembos hypacanthus K. H. Barnard, 1916

Lembos hypacanthus K. H. Barnard, 1916: 237, pl. 28, figs 5, 6.

Lembos hirsutipes (non Stebbing 1895): K. H. Barnard, 1951: 706.

Records: KNY 13G, KNY 139B, KNY 166G, KNY 171F.

Distribution: Endemic, Natal to South West Africa.

Neomicrodeutopus nyala n. sp.

Fig. 7

Description of male (4 mm): Head anteriorly truncate, eyes circular with the centre black; mandible with 3-articulate palp, articles 1 and 3 subequal, shorter than 2, molar large, lacinia mobilis present (Fig. 7E), spine row of three spines; inner plates of maxilliped (Fig. 7F) with three apical blade-spines, outer plate with seven blade-spines along inner margin, the spines becoming progressively longer distally, palp 4-articulate, the terminal article bearing three strong setae; (antennae missing).

Coxae short, not touching serially; gnathopod 1 (Fig. 7B) powerful, article 5 postero-distally produced into two teeth separated by a semicircular concavity, article 6 much narrower than 5, bearing a small bump on posterior margin,

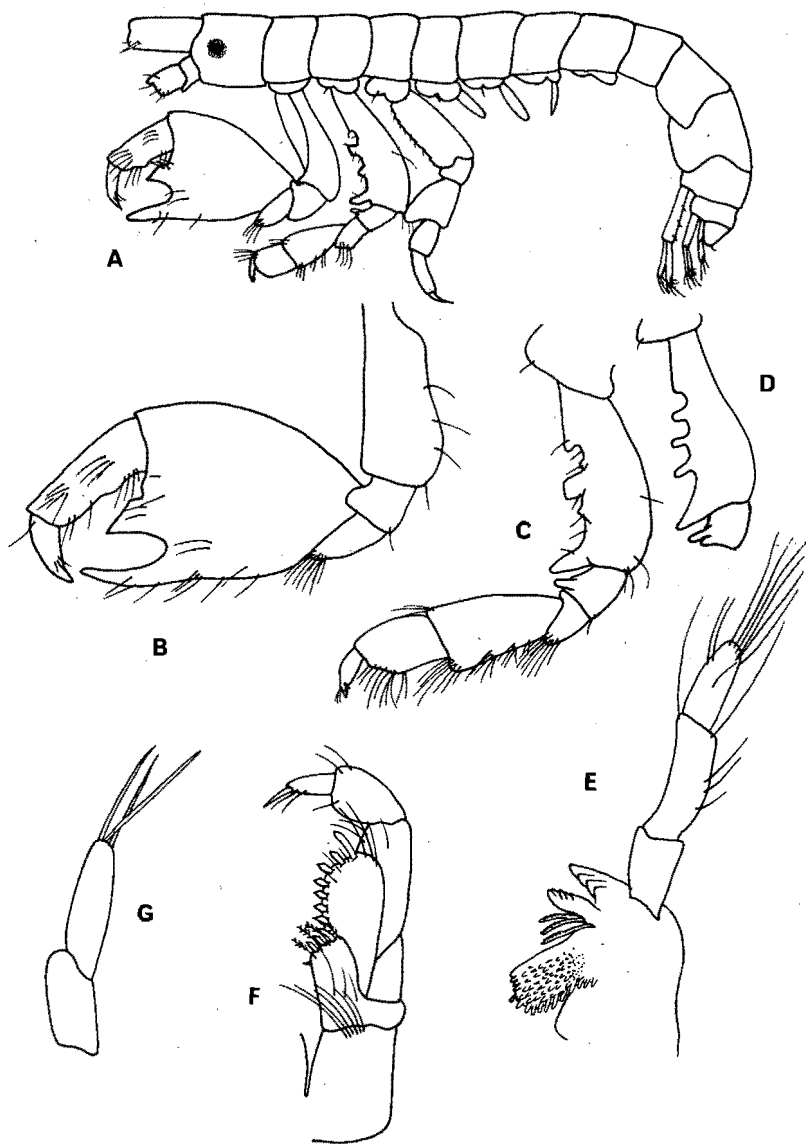


Fig. 7. *Neomicrodeutopus nyala* n. sp.
 Male, 4 mm: A—lateral aspect; B—gnathopod 1; C—gnathopod 2 left side;
 D—article 2 of gnathopod 2 right side; E—mandible; F—maxilliped;
 G—uropod 3.

7 shorter than 6; article 2 of gnathopod 2 (Fig. 7C) anteriorly produced into a number of projections (in this individual four fairly regular teeth on one side and three teeth on the other), the distal tooth the largest, article 3 anteriorly produced into an elongate lobe, article 5 longer than 6, palm oblique, not defined, dactyl terminating in a large spine and three setae; pereopod 1 stout, article 2 regularly crenulate anteriorly; (pereopods 2-5 missing).

Pleonal epimera smoothly rounded, somewhat lobed postero-distally; uropods 1 and 2 biramous, rami equal, terminally strongly spinose, uropod 1 with a terminal peduncular spine projecting between the rami; uropod 3 (Fig. 7G) uniramous, ramus twice length of peduncle, uni-articulate, three long setae at its apex; telson quadrangular, a dorsal tubercle and two or three short setae on each corner.

Holotype: SAM A13069, male, 4 mm.

Type locality: SST 34Q, 34°40'S/21°39'E, 21 June 1972, depth 80 m, substrate coarse shelly sand.

Relationships: The unusual armature of article 2 of gnathopod 2 immediately distinguishes this species from the other three members of the genus. In addition *N. nyala* n. sp. differs from *N. makaka* J. L. Barnard in the narrower article 6 of gnathopod 1 and the uni-articulate ramus of uropod 3, and from *N. cabindae* Schellenberg in the shape of article 5 of gnathopod 1. *N. elongata* (Chevreux) has more produced optic lobes and a much longer peduncle of uropod 3 than *N. nyala* n. sp.

Material: SST 34Q, 2 ♂♂.

Photis dolichommata Stebbing, 1910

Photis dolichommata Stebbing, 1910b: 609, pl. 55B.

Records: SCD 34E(6), SCD 41P(4), SCD 81C(2), SCD 100P(2), SCD 102H(5), SCD 103U(1), SCD 181S(8), SCD 204Q(5), SCD 208H(2), SCD 235Y(1), SCD 249U(1), SCD 295A(1), SCD 353B(260); SST 1A(3), SST 16T(1); 34°S/22°E/230 m (K. H. Barnard 1916).

Diagnosis: Ocular lobes very long, eyes oval, large; palm of gnathopod 1 male oblique, not excavate, dactyl finely serrate; article 2 of gnathopod 2 male not lobed antero-distally, palm slightly oblique, defined by a fairly strong tooth and with two small processes along its length; inner ramus of uropod 3 30% length of outer, outer ramus with a minute second article.

Distribution: Australia, South Africa.

Photis kapapa J. L. Barnard, 1970

Photis kapapa J. L. Barnard, 1970b: 192, figs 124, 125.

Records: SCD 282V(3), SCD 287E(4); SST 16U(1).

Distribution: Hawaii, east coast of southern Africa.

Photis longimanus Walker, 1904

Photis longimanus: K. H. Barnard, 1916: 244. Sivaprakasam, 1969: 567, fig. 8.

Records: SCD 192Z(40), SCD 204Z(1), SCD 244M(10), SCD 248K(3), SCD 257P(4), SCD 338Q(6), SCD 339T(4), SCD 368S(5).

Distribution: Indian Ocean, extending to South West Africa.

Photis uncinata K. H. Barnard, 1932

Photis longicaudata: K. H. Barnard, 1916: 243, pl. 28, fig. 26.

Photis uncinata K. H. Barnard, 1932: 223, fig. 138.

Records: SCD 24N(4), SCD 60L(2), SCD 83D(3), SCD 95D(30), SCD 99L(1), SCD 103V(1), SCD 122F(10), SCD 131Y(4), SCD 141T(1), SCD 146A(24), SCD 148M(1), SCD 151G(7), SCD 159X(3), SCD 181W(2), SCD 184E(2), SCD 188A(27), SCD 189A(135), SCD 216G(2), SCD 244P(5), SCD 302U(1), SCD 319Z(1), SCD 321U(2), SCD 343Z(2), SCD 345Z(6), SCD 353J(38), SCD 370S(3), SCD 379Q(1), SCD 392Z(8); SST 19B(6), SST 24D(3), SST 29F(4), SST 32G(1), SST 34K(3), SST 40U(2); 33°S/28°E/83 m, 34°S/23°E/80 m (K. H. Barnard 1916).

Distribution: Endemic to South Africa.

Siphonocetes dellavallei Stebbing, 1893

Siphonocetes dellavallei: Chevreux & Fage, 1925: 361, fig. 369.

Records: SCD 135J(3), SCD 198M(5), SCD 236C(3), SCD 285R(2), SCD 300W(1), SCD 338C(450), SCD 339V(7), SCD 368Q(30), SCD 383U(10), SCD 384S(9); SST 24M(1), SST 32D(1), SST 34N(1), SST 45A(33), SST 65G(1), SST 67Q(2), SST 73F(2); MB 5G(13), MB 34L(5).

Distribution: Mediterranean, southern Africa.

Siphonocetes orientalis Walker, 1904

Siphonocetes orientalis Walker, 1904: 294, pl. 7, fig. 49. K. H. Barnard, 1916: 270.

Records: SCD 95F(6), SCD 96W(1), SCD 120B(1), SCD 192Z(6), SCD 237H(1); 32°S/28°E/95 m, 34°S/26°E/116 m (K. H. Barnard 1916).

Distribution: Tropical Indo-Pacific.

Family Dexaminidae

Atylus granulatus (Walker, 1904)

Atylus granulatus: Ledoyer, 1967: 127, fig. 8.

Records: SCD 24Y(1); SST 37S(2), SST 47G(1), SST 60M(1); LIZ 31P(1).

Distribution: Indian Ocean.

Atylus guttatus (Costa, 1851)

Nototropis guttatus: Chevreux & Fage, 1925: 194, figs 201–203.

Records: SCD 285L(5), SCD 332V(34), SCD 339W(1), SCD 383N(141).

Distribution: Europe, West and South Africa.

Atylus homochir Haswell, 1885

Atylus homochir: Stebbing, 1888: 908–913, pl. 74.

Records: 33°S/26°E/18–29 m (Stebbing 1910a).

Diagnosis: Body dorsally carinate but carinae produced into teeth only on pereon segment 7 and pleon segments 1–3; pleon segment 4 with two dorsal teeth, the hind one the larger; composite pleon segment 5 and 6 with a posterior tooth; article 2 of pereopod 3 not at all produced postero-distally; pleonal epimera 1–3 each produced into a minute point postero-distally.

Distribution: Australia, South Africa.

Atylus swammerdami (Milne-Edwards, 1830)

Paratylus swammerdami: Sars, 1895: 463, pl. 163.

Atylus swammerdami: Chevreux & Fage, 1925: 195, fig. 204.

Records: MB 20V(1), MB 28F(4), MB 69S(1), MB 82B(17).

Distribution: Europe, West and South Africa.

Polycheria atolli Walker, 1905

Polycheria atolli: Ledoyer, 1972: 205, pl. 27.

Records: SCD 10R(5), SCD 55F(6), SCD 160A(11), SCD 172U(54), SCD 173T(8), SCD 181P(30), SCD 244H(51), SCD 262N(1), SCD 366P(1), SCD 379L(1), SCD 388D(1); SST 16L(1); LIZ 17F(3), LIZ 37N(1); MB 54V(C), MB 69Q(3), MB 77R(1), MB 86B(1), MB 87M(2); L 410; VV 2H; Still Bay (K. H. Barnard 1940).

Distribution: Southern oceans, extending to tropical Indian Ocean.

Family Eusiridae

Eusirus minutus Sars, 1893

Eusirus minutus: Sars, 1895: 419, pl. 149, fig. 2.

Records: SST 16Q(1).

Diagnosis: Pereon segment 7 and pleon segments 1 and 2 dorsally toothed; article 6 of gnathopods 1 and 2 attached to upper distal corner of article 5 ('eusirid'); third pleonal epimeron postero-distally rounded, lower posterior

margin finely serrate; article 6 of pereopods 3–5 less than twice as long as article 2; telson evenly tapering, less than 20% cleft, apices divergent.

Distribution: Norway, South Africa.

Eusiroides monoculoides (Haswell, 1880)

Eusiroides monoculoides: J. L. Barnard, 1964: 221, fig. 1.

Records: SCD 59C(2), SCD 181Z(3), SCD 253E(2), SCD 300N(18), SCD 312R(9), SCD 353Q(4), SCD 366Y(2); LIZ 29P(1); 32°S/28°E/170 m, 33°S/28°E/120 m, 34°S/25°E/137 m (K. H. Barnard 1916).

Distribution: Circumtropical.

Paramoera bidentata K. H. Barnard, 1932

Paramoera bidentata K. H. Barnard, 1932: 211, figs 118m, 129.

Records: Still Bay (K. H. Barnard 1940).

Distribution: Endemic, Still Bay to South West Africa.

Paramoera capensis (Dana, 1853)

Paramoera capensis: K. H. Barnard, 1916: 183–186.

Paramoera schizurus Stebbing, 1918: 66, pl. 10.

Records: SCD 24Q(14), SCD 110U(1), SCD 285N(5), SCD 332U(22), SCD 338Q(3), SCD 339U(2), SCD 381V(1), SCD 391P(5); SST 16G(10), SST 47F(2), SST 65D(2), SST 73J(1); LIZ 13Q(1), LIZ 29M(7), LIZ 32Y(1); MB 21D(1), MB 28D(C), MB 32J(2), MB 33M(2), MB 38H(C), MB 57B(17), MB 59G(2), MB 66Q(1), MB 70R(7), MB 71J(2), MB 73K(4), MB 82A(2), MB 87A(5); KNY 13F, KNY 57B, KNY 139A, KNY 166C, KNY 171B(C), KNY 179B(1); GBR 24H(7); BRE 135B(5); J 11J, Q 5J; LIZ 11Z; X 11B; K80; Y 12F; E 235; ZZ 3M; T 3F; RR 4H; KN 2G; KKN 43G; SS 4L, SS 55D; East London, Port Elizabeth (K. H. Barnard 1916); Still Bay (K. H. Barnard 1940).

Distribution: Atlantic and Indo-Pacific.

Family Gammaridae

Ceradocus rubromaculatus (Stimpson, 1855)

Ceradocus rubromaculatus: J. L. Barnard, 1972a: 220, fig. 129.

Records: SCD 55G(2), SCD 93L(3), SCD 110V(1), SCD 159S(2), SCD 181M(3), SCD 262H(6), SCD 300M(8), SCD 353G(5), SCD 366N(4), SCD 388C(1); SST 47B(8), SST 52P(1); LIZ 37K(1); MB 10R(2), MB 13N(1), MB 23G(2), MB 40K(2), MB 50T(2), MB 54T(10), MB 66M(12), MB 77S(1), MB 84U(1);

KNY 171A(1); QQ 4X; L 316; X 22E; E 229; ZZ 3T; T 3U; KN 43F; S 540; 33°S/25°E/45 m (Stebbing 1908a).

Distribution: Indo-Pacific.

Elasmopoides chevreuxi Stebbing, 1908

Elasmopoides chevreuxi Stebbing, 1908a: 82, pl. 39.

Records: 33°S/28°E/86 m (Stebbing 1908a).

Diagnosis: Accessory flagellum exceeding 20 articles; eyes extending almost whole height of head; article 3 of mandibular palp as long as 2, article 1 simple; inner plates of maxillae strongly setose medially; gnathopods subchelate; article 2 of pereopods 3–5 strongly dentate posteriorly; uropod 3 not exceeding uropod 1, rami broad, equal, the outer uni-articulate; lobes of telson basally separate.

Distribution: The above record is the only one of this species to date.

Elasmopus japonicus Stephensen, 1932

Elasmopus spinimanus (non Walker, 1905): K. H. Barnard, 1925: 358.

Elasmopus japonicus: Sivaprakasam, 1968: 278, figs 3–5.

Records: Y 12K; E 230; Port Elizabeth (K. H. Barnard 1940).

Distribution: Indo-Pacific, extending to South West Africa.

Elasmopus pecteniscrus Bate, 1862

Elasmopus pecteniscrus: J. L. Barnard, 1970a: 125, figs 73, 74.

Records: J 11H; QQ 4Z; L 47S; X 22A; SS 55E; Still Bay, East London (K. H. Barnard 1940).

Distribution: Cosmopolitan in tropical and temperate seas.

Eriopisa chilensis (Chilton, 1921)

Niphargus chilensis Chilton, 1921: 531, fig. 4.

Records: KNY 42A, KNY 81A.

Distribution: India, east coast of South Africa.

Eriopisa epistomata Griffiths, 1974

Eriopisa epistomata Griffiths, 1974a: 186, fig. 4.

Records: SCD 276 P(2); SST 40V(2), SST 41M(7).

Distribution: Endemic, south coast of South Africa to South West Africa.

Eriopisella capensis (K. H. Barnard, 1916)

Eriopisa capensis K. H. Barnard, 1916: 187, pl. 27, figs 16–19.

Records: SCD 222M(6), SCD 228B(19), SCD 232J(10), SCD 356S(2).

Diagnosis: Antero-lateral angles of head rounded, eyes absent; mandibular palp slender, article 3 shorter than 2; article 5 of gnathopod 1 not distally widened, 6 oval, palm oblique, three times as long as hind margin; gnathopod 2 with article 5 triangular, wider than 6; pleonal epimera postero-distally rounded; inner ramus of uropod 3 25% length of elongate outer ramus; telson cleft to base, lobes dehiscent, each bearing 3–4 unequal spines.

Distribution: Endemic to south and west coasts of South Africa.

Maera boeckii (Haswell, 1879)

Elasmopus boeckii: K. H. Barnard, 1916: 199, pl. 27, figs 13, 14.

Maera boeckii: K. H. Barnard, 1940: 460.

Records: S 54J; Port Elizabeth (K. H. Barnard 1916); Still Bay (K. H. Barnard 1940).

Diagnosis: Coxa 1 moderately produced forwards; palm of gnathopod 2 slightly oblique, bearing four strong teeth, that closest to the finger hinge having one or two accessory cusps, dactyl slender, closing within the defining tooth; posterior margin of third pleonal epimeron entire; uropod 3 not exceeding uropod 1; telson 60% cleft, lobes dehiscent, two setae arising from excavate tip of each lobe.

Distribution: Australia, South Africa.

Maera hamigera Haswell, 1880

Maera hamigera: K. H. Barnard, 1916: 196, pl. 27, fig. 11. J. L. Barnard, 1965: 507, fig. 16.

Records: SCD 262J(1), SCD 310G(20), SCD 343Z(1), SCD 373P(3), SCD 374K(5); 33°S/27°E/120 m (K. H. Barnard 1916).

Distribution: Indo-Pacific.

Maera inaequipes (Costa, 1851)

Maera inaequipes: J. L. Barnard, 1959a: 25, pl. 5.

Records: SCD 10E(12), SCD 10T(3), SCD 24L(1), SCD 41N(10), SCD 55E(10), SCD 102E(7), SCD 118P(1), SCD 181N(35), SCD 253D(1), SCD 300S(10), SCD 302Q(1), SCD 353N(3), SCD 370R(1); SST 16J(2), SST 24E(1); MB 54Z(6), MB 86A(2); 32°S/28°E/141 m, 33°S/28°E/91 m (K. H. Barnard 1916).

Distribution: Cosmopolitan in tropical and temperate seas.

Maera mastersi (Haswell, 1880)

Maera mastersi: Sivaprakasam, 1968: 36, fig. 1A–G. J. L. Barnard, 1972a: 226, fig. 132.

Records: SCD 34F(1), SCD 95G(1), SCD 159R(140), SCD 198Z(2), SCD 227P(1), SCD 269T(2), SCD 273H(2), SCD 321W(6), SCD 326L(2), SCD 366U(7); SST 16N(8), SST 19G(33).

Diagnosis: Coxa moderately produced forwards; gnathopod 2 much larger than 1, palm defined by a small projection, proximal portion of palm smoothly concave, covered by a dense fur of very short setae, distal third of palm produced into a small hump bearing two or three short spines; third pleonal epimeron bearing three posterior serrations; uropod 3 greatly exceeding 1 and 2; telson cleft nearly to base, a small notch on inner margin of each apex bearing a single seta.

Distribution: Indo-Pacific.

Remarks: The above specimens bear a close resemblance to those figured by Sivaprakasam (1968), although his figures fail to show any 'fur' of setae on the palm of gnathopod 2. J. L. Barnard's Australian material shows marked differences from the South African and Indian forms, especially as regards the shape of the palm of gnathopod 2 and the setification of the telson. Further sampling is necessary before it can be shown with certainty whether the various morphs so far described are synonymous or represent different species.

Mallacoota subcarinata (Haswell, 1880)

Elasmopus subcarinatus: Stebbing, 1910a: 458.

Maera subcarinata: K. H. Barnard, 1940: 460, fig. 26.

Mallacoota subcarinata: J. L. Barnard, 1972a: 247, figs 144, 145.

Records: SCD 262Q(2); LIZ 40C(3); MB 69R(1); 33°S/26°E/18–29 m (Stebbing 1910a).

Distribution: Mediterranean, Indo-Pacific.

Megaluropus agilis Hoek, 1889

Megaluropus agilis: Pillai, 1957: 50, fig. 10.

Records: MB 82H(1).

Diagnosis: Gnathopods simple; article 5 of gnathopod 2 dilated distally, article 6 tapering distally; peduncle of uropod 3 short, rami greatly flattened, subequal, their margins irregularly setose.

Distribution: North Atlantic, Mediterranean, India, South Africa.

Melita machaera K. H. Barnard, 1955

Melita machaera K. H. Barnard, 1955: 90–92, fig. 45.

Records: SCD 338T(1); TRA 54F(1).

Diagnosis: Lower margins of articles 4–6 of gnathopod 1 thickly fringed with short setae; palm of gnathopod 2 male slightly oblique, crenulate, a marked semicircular concavity at its centre, defining angle bearing two teeth and a pocket on its inner surface into which the tip of the dactyl closes; pleon segments 3 and 4 each with a small medio-dorsal tooth, segment 5 with a pair of latero-dorsal teeth; uropod 3 as long as pleon segments 2–6 together.

Distribution: Endemic to south coast of South Africa.

Melita orgasmos K. H. Barnard, 1940

Melita orgasmos K. H. Barnard, 1940: 454. Sivaprakasam, 1966: 114, fig. 12 k–m.

Records: SCD 104Y(1); KNY 171E; LLL 6D; K 8N; Still Bay, Port Elizabeth (K. H. Barnard 1940).

Distribution: India, southern Africa.

Melita zeylanica Stebbing, 1904

Melita zeylanica: J. L. Barnard, 1972a: 235, figs 139–141.

Records: SUN 8K(8); BMR 7J(1), BMR 23T(1), BMR 25H(1), BMR 26S(8); HAM 3R(3), HAM 9B(A), HAM 11G(P); HAV 3G, HAV 5D(1), HAV 7K(P), HAV 8D(C), HAV 9B, HAV 10E(C), HAV 18J(A); KNY 50D, KNY 112A, KNY 179C, KNY 291E; GBR 24G(2), GBR 46B(1); BRE 30Z(2), BRE 31E(3), BRE 43F(5), BRE 44V(6), BRE 52N(2), BRE 71L(3), BRE 128A(1), BRE 135A(20), BRE 135C(1), BRE 144B(1), BRE 146A(4); STJ 7R, STJ 15K(C), STJ 16J(C), STJ 26F(1), STJ 27H(C), STJ 29G, STJ 31U(A), STJ 32C; Little Brak River, Keurbooms River, Wilderness lagoon, George, Port Elizabeth, East London (K. H. Barnard 1940).

Distribution: Indo-Pacific (a brack-water species).

Pareiasmopus ? suluensis (Dana, 1853)

Pareiasmopus suluensis: Stebbing, 1888: 1029, pl. 100.

Records: QQ 4Y, S 54F.

Diagnosis: None of coxae 1–4 with antero-ventral teeth; palm of gnathopod 2 male oblique; article 2 of pereopods 3–5 not grossly serrate, articles 3–5 not very setose; pereon segment 7 and pleon segments 1–4 each with a pair of strong dorsal teeth; third pleonal epimeron strongly serrate ventrally.

Distribution: ? Indo-Pacific.

Remarks: Considerable controversy surrounds the identity of this form (for discussion see J. L. Barnard, 1972a: 253). The specimens described above conform with those of Stebbing (1888) but Stebbing's material differs from that of Dana (1853) in the presence of dorsal teeth on pereon segment 7 and in the

weaker serrations on article 2 of pereopods 3-5. Authors subsequent to Stebbing have further confused the situation by synonymizing his *P. suluensis* with *P. setiger* Chevreux, a move which it now appears was unjustified. As the situation stands at present, definitive identifications cannot be made until the existing forms are reviewed by someone who has access to the original types. In the meantime I feel I cannot go further than to associate my material with the well-known description of Stebbing (1888).

Family **Haustoriidae**

Bathyporeia sp.

Bathyporeia gracilis: K. H. Barnard, 1951: 704.

(non) *Bathyporeia gracilis* Sars 1891: 132-133, pl. 45 (1).

Records: SCD 244C(22), SCD 286H(2), SCD 329X(1), SCD 338M(1), SCD 349Q(1), SCD 370Q(1), SCD 376F(3), SCD 384R(1).

Distribution: Endemic, south coast of South Africa to South West Africa.

Remarks: This material was sent to Dr Wim Vader for use in a study on the status of *Bathyporeia gracilis* Sars, but was found by him to be an undescribed species (Vader 1970) which he is in the process of describing.

Cunicus n. gen.

Diagnosis: Antenna 1 geniculate between articles 2 and 3; antenna 2 geniculate between articles 3 and 4 and 4 and 5; mandibular palp not arising from basal process, molar represented by a spinose process; outer plate of maxilla 2 not enlarged; maxillipedal palp 4-articulate; coxae 1 and 2 rounded-quadrate, of moderate size; gnathopods subchelate, article 5 much longer than 6; pereopods with dactyls; uropods 1 and 2 represented by rounded setose lobes; uropod 3 biramous, rami subequal, the outer bi-articulate; telson cleft.

Type species: *Cunicus profundus* n. sp.

Relationships: This new genus lies closest to *Urothoe* but is distinguished from it by the reduced first and second uropods (these are biramous in *Urothoe*), the geniculate antennae and the unusual mandibular molar.

Cunicus profundus n. sp.

Figs 8, 9

Description of male (3.5 mm): Body not more than three times as long as wide; head as long as first two pereon segments, eyes absent; antennae short, subequal, held in life in a folded position along side of head; articles 1 and 2 of antenna 1 equal, setose dorsally (Fig. 8B), article 3 somewhat shorter than 2, joint

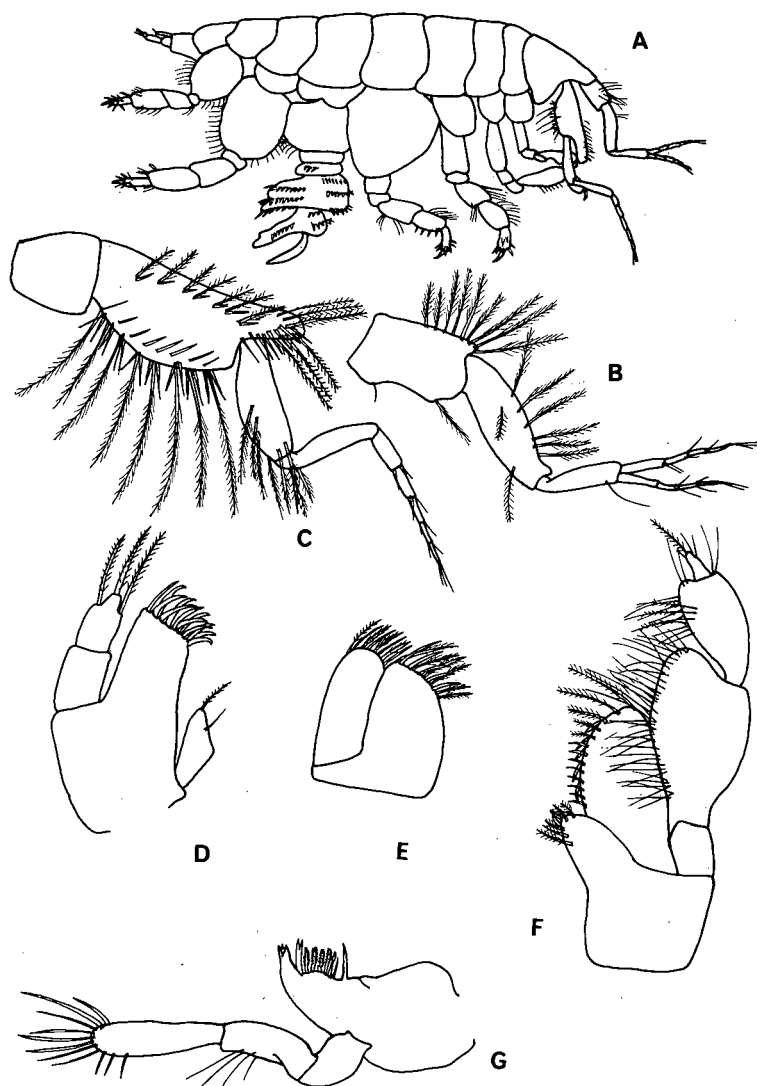


Fig. 8. *Cunicus profundus* n. gen., n. sp.
 Male, 3,5 mm: A—lateral view; B—antenna 1; C—antenna 2; D—maxilla 1;
 E—maxilla 2; F—maxilliped; G—mandible.

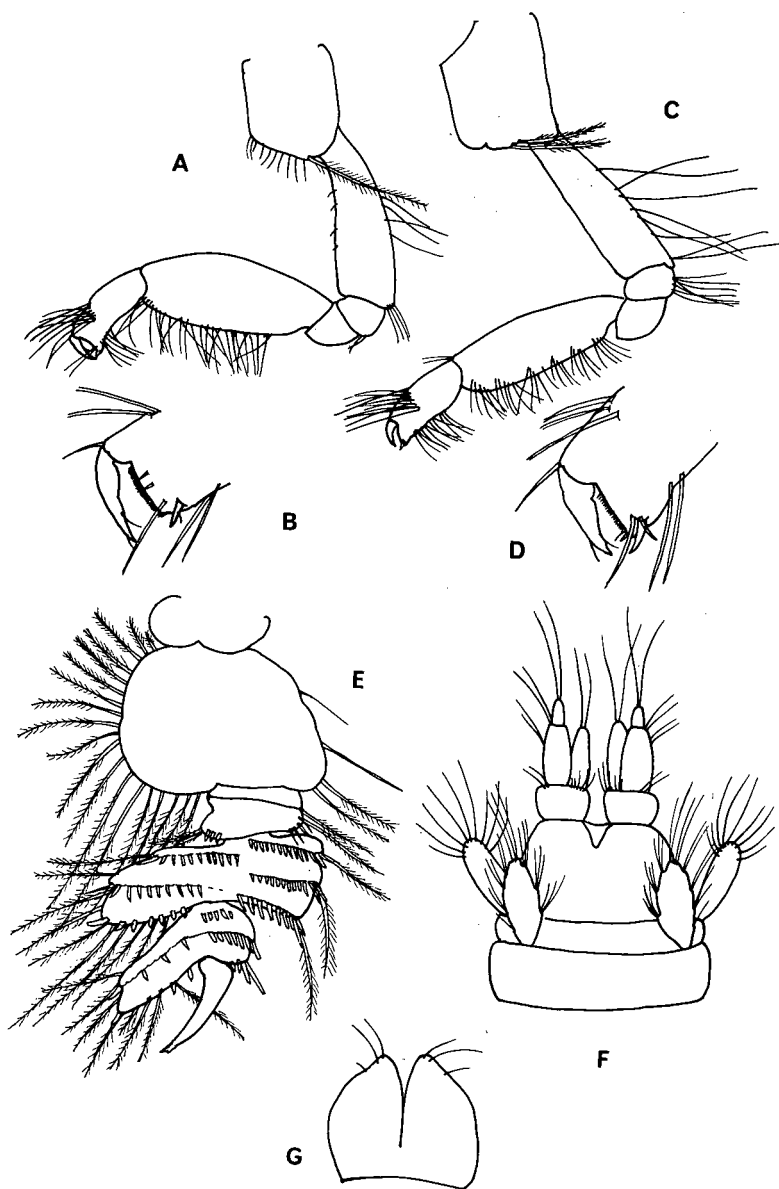


Fig. 9. *Cunicus profundus* n. gen., n. sp.
 Male, 3,5 mm: A—gnathopod 1; B—palm of gnathopod 1 enlarged; C—gnathopod 2; D—palm of gnathopod 2 enlarged; E—pereopod 3; F—ventral view of urosome; G—telson.

between articles 2 and 3 geniculate, flagellum equal to accessory flagellum, both 4-articulate; antenna 2 geniculate between articles 3 and 4 and 4 and 5, peduncle setose and spinose (Fig. 8C), flagellum 5-articulate; mandible (Fig. 8G) with 3-articulate palp, incisor tridentate, lacinia mobilis bifid, spine row of six serrate spines, molar represented by a spiniform process; palp of maxilla 1 bi-articulate (Fig. 8D), tipped by three plumose setae, outer plate bearing 12 strong spines, inner plate with two short setae; plates of maxilla 2 (Fig. 8E) terminating in a row of alternating simple and plumose setae; maxilliped (Fig. 8F) with 4-articulate palp, outer plate with five distal plumose setae and a medial row of alternating spines and setae, inner plate terminating in a group of spines surrounded by short plumose setae.

Coxae rounded, 1-4 successively larger, distally setose, coxa 4 extending to tip of article 2 of pereopod 2; gnathopods 1 and 2 (Fig. 9A-D) subchelate, palms minutely pectinate, transverse, defined by large spines; pereopods 1 and 2 each with article 5 posteriorly spinose, dactyl basally surrounded by a ring of spines; pereopod 3 (Fig. 9E) greatly widened and strongly spinose, article 2 fringed by long plumose setae, article 4 with a fascicle of plumose setae arising from its inner margin, article 5 twice as wide as long and with three transverse rows of short strong spines and a marginal row of plumose setae on posterior lobe, article 6 greatly produced postero-distally into a spinose and setose lobe overhanging the simple cultriform dactyl; pereopods 4 and 5 with plumose setae on posterior margin of article 2 and a ring of strong spines around base of dactyl.

Pleon somewhat narrower than pereon, pleonal epimera postero-distally rounded, the second with a fascicle of plumose setae on its external surface; urosome very short (Fig. 9F), uropods 1 and 2 represented only by rounded setose lobes; uropod 3 of normal structure, peduncle quadrate, outer ramus bi-articulate, slightly longer than the inner; telson cleft, extending to centre of rami of uropod 3, apex of each lobe with three small setae.

Female: Ovigerous at 3,5 mm, bearing 3-5 large eggs, otherwise similar to male.

Holotype: SAM A13212, male, 3,5 mm.

Type Locality: SCD 384P, 33°52'S/25°38'E, 15 December 1962, depth 7 m, substrate grey sand.

Material: SCD 83B(1), SCD 128 U(1), SCD 225F(2), SCD 285P(1), SCD 286F(1), SCD 350M(1), SCD 370P(1), SCD 384P(1).

Remarks: The body form of this species and the fact that it has been recovered from depths of up to 0,6 m beneath the sand surface bear witness to its extraordinary degree of adaptation to the fossorial mode of life. Morphological adaptations include the broadly truncated body shape, wide pereopods, large coxae, reduced urosome and the loss of eyes. Other features also considered advanced include the minimal degree of sexual dimorphism and small number

of eggs carried by the female (3-5). These factors taken together indicate that *Cunicus* is probably the most advanced burrowing amphipod known, certainly the tendency for reduction of urosome and broadening of pereon are taken to their extreme here.

Urothoe coxalis Griffiths, 1974

Urothoe coxalis Griffiths, 1974b: 238, fig. 5.

Records: KNY 157B(9).

Distribution: Endemic, Durban to Knysna.

Urothoe elegans Bate, 1857

Urothoe elegans: Chevreux & Fage, 1925: 101, fig. 95.

Records: SCD 232F(1), SCD 392T(1); SST 5E(3), SST 16H(1), SST 19E(1), SST 24J(4); 34°S/22°E/81 m (K. H. Barnard 1955).

Distribution: Atlantic and Indian Oceans.

Urothoe grimaldi Chevreux, 1895

Urothoe grimaldii: Chevreux & Fage, 1925: 99, fig. 93. K. H. Barnard, 1955: 84, fig. 41B.

Records: SCD 122D(1), SCD 135G(1), SCD 141M(7), SCD 146B(1), SCD 198L(95), SCD 202C(1), SCD 222N(1), SCD 225E(7), SCD 230C(1), SCD 232E(2), SCD 257N(14), SCD 267J(5), SCD 276L(10), SCD 278L(2), SCD 286D(10), SCD 315X(24), SCD 329V(8), SCD 348Z(4), SCD 368(T)1, SCD 370N(7), SCD 376G(13), SCD 381R(8); SST 1G(1), SST 61N(2), SST 73G(1); MB 71H(6); 34°S/22°E/110 m, 34°S/22°E/81 m (K. H. Barnard 1955).

Distribution: Atlantic, Mediterranean, India, South Africa.

Urothoe platypoda n. sp.

Fig. 10

Description of male (2.5 mm): Head as long as three pereon segments; eyes large, dark, subcircular; flagellum of antenna 1 5-articulate, accessory flagellum of two equal segments; antenna 2 as long as body (Fig. 10A), terminal article of peduncle bearing five large calceoli, flagellum slender, 26-articulate; palp of maxilla 1 bi-articulate, outer plate bearing 10 strong spines; mandible (Fig. 10B) with large quadrate molar and 3-articulate palp, article 1 of palp shorter than 2 or 3; maxilliped (Fig. 10C) with 4-articulate palp, article 2 broadly expanded medio-distally, the expansion strongly setose, article 3 widening distally, outer plate twice length of inner, bearing five strong spin-teeth medially, inner plate terminating in five curved spines and a few short plumose setae.

Coxa 1 tapering to an acute apex, coxae 2-4 slightly produced backwards,

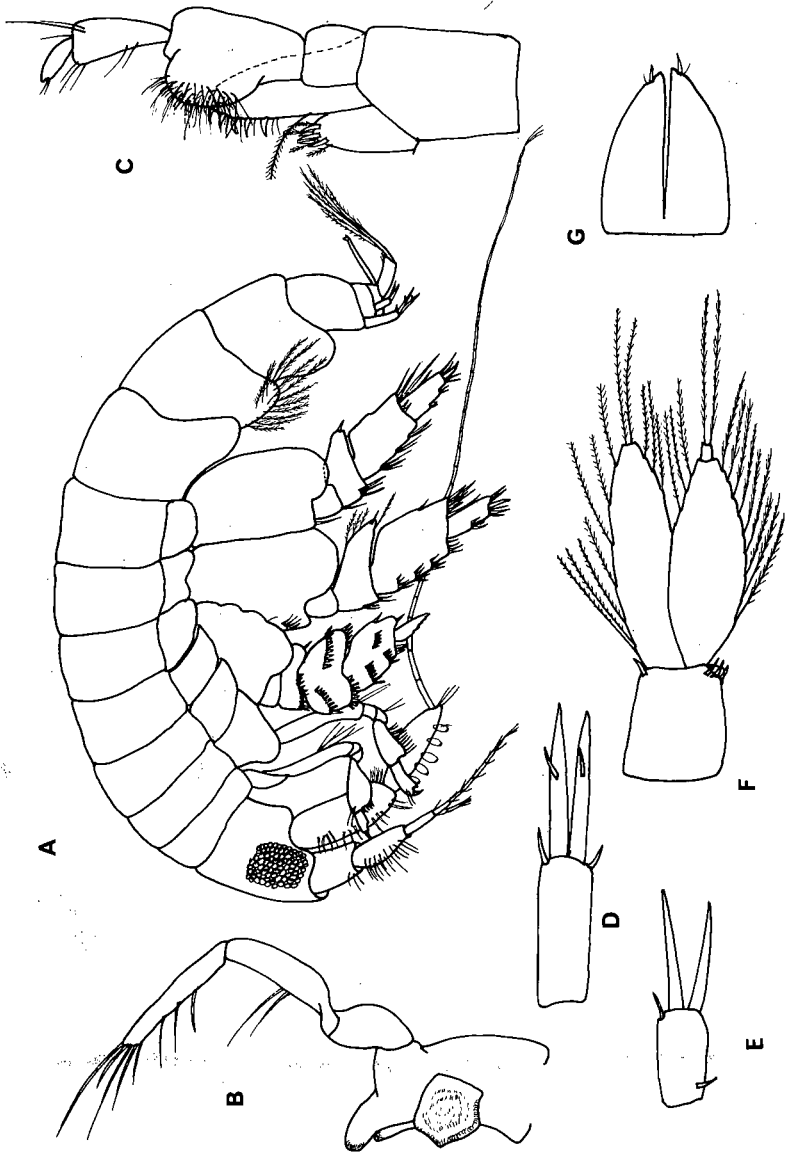


Fig. 10. *Urothoe platypoda* n. sp.
Male, 2.5 mm: A — lateral aspect; B — mandible; C — maxilliped; D — uropod 1; E — uropod 2; F — uropod 3; G — telson.

remaining coxae rounded; gnathopod 1 simple, article 5 expanded posteriorly, bearing four spines postero-distally, article 6 small; gnathopod 2 subchelate, palm strongly concave; pereopods 1 and 2 strongly spinose posteriorly, dactyls present; article 2 of pereopod 3 unusually large, posterior margin scalloped, postero-distal corner lobed to obscure part of article 3, article 4 with a single postero-distal spine and a row of nine antero-distal spines, article 5 somewhat broader than long, bearing two transverse rows of ten and nine spines anteriorly and two rows of nine and six spines posteriorly (Fig. 10A), article 6 with three

anterior rows of seven, five and three spines, a central group of five spines and two single spines on posterior margin, dactyl broad, anteriorly serrate; article 2 of pereopods 4 and 5 large, lobed postero-distally, articles 4 and 5 strikingly broadened, 4 being as wide as 2.

Pleon segments very large, pleonal epimera postero-distally rounded, the second bearing plumose setae on its outer surface; rami of uropod 1 (Fig. 10D) equal, peduncle with two distal spines and each ramus with a single large spine mid-dorsally; uropod 2 (Fig. 10E) much shorter than 1, peduncle with one proximal and one distal spine, rami naked; uropod 3 (Fig. 10F) with quadrate peduncle, rami foliaceous, subequal, bearing long marginal plumose setae, outer ramus with a short article 2; telson (Fig. 10G) 1,5 times as long as peduncle of uropod 3, cleft to base, each lobe bearing a single spine and a minute seta at its apex

Female (3 mm): Similar to the male except for the eyes, second antennae and third uropods. The eyes are much smaller than those of the male, being composed of about 12 well-spaced ommatidia, while antenna 2 is subequal to antenna 1, lacks calceoli and has a 2-articulate flagellum. The third uropods do not exceed the tip of the telson and have fewer, shorter marginal setae.

Holotype: SAM A13210, male, 2,5 mm.

Type locality: SCD 391G, 34°05'S/23°24'E, 8 December 1962, depth 11 m, substrate yellow sand.

Relationships: The shape of pereopods 3–5 serves to diagnose this species. The second articles (especially that of pereopod 3) are unusually large and the enlarged flattened articles 4 and 5 of pereopods 4 and 5 are unique in the genus.

Material: SCD 202D(6), SCD 230B(1), SCD 349N(1), SCD 391G(12).

Urothoe pinnata K. H. Barnard, 1955

Urothoe pinnata K. H. Barnard, 1955: 86, fig. 42.

Records: SCD 288G(1); SST 52N(5), SST 54B(2), SST 56P(3).

Distribution: Endemic, Natal to False Bay.

Urothoe pulchella (Costa, 1853)

Urothoe pulchella: Chevreux & Fage, 1925: 99, fig. 92. K. H. Barnard, 1955: 83, fig. 41A.

Records: SCD 74A(1), SCD 83A(2), SCD 104T(1), SCD 128S(2), SCD 135F(20), SCD 148H(16), SCD 173W(1), SCD 202B(2), SCD 211V(3), SCD 285Q(6), SCD 286E(1), SCD 287D(1), SCD 333R(4), SCD 345U(19), SCD 348Y(1), SCD 349M(10), SCD 350L(1), SCD 383P(9), SCD 384N(45), SCD 391H(19); SST 1E(2), SST 9B(2), SST 32C(1), SST 34H(3), SST 56U(3), SST 59K(3), SST 60J(8), SST 61M(3), SST 62N(1), SST 63Q(1), SST 65E(9), SST 67M(4),

SST 74D(1), SST 76M(1), SST 77D(7), SST 78D(5); MB 82C(2); SUN 5D(10); HAV 7M, HAV 13L(2), HAV 17B(A); KNY 187B(3); GBR 12C(45), GBR 16J(7); STJ 14C(C), STJ 15L(P), STJ 16U(1), STJ 17C(1); 34°S/22°E/109 m (K. H. Barnard 1916); 34°S/22°E/77 m, 34°S/22°E/110 m (K. H. Barnard 1955).

Distribution: Mediterranean, Atlantic, South Africa.

Urothoe tumorosa Griffiths, 1974

Urothoe tumorosa Griffiths, 1974b: 241, fig. 6.

Records: SST 54C(2).

Distribution: Endemic, Durban to Still Bay.

Family *Ischyroceridae*

Ischyrocerus anguipes Kröyer, 1838

Ischyrocerus anguipes: J. L. Barnard, 1954: 35, pls 32, 33; 1969b: fig. 107B.

Records: SS 55L.

Distribution: Cosmopolitan in tropical and temperate seas.

Jassa falcata Montagu, 1808

Jassa falcata: Sexton & Reid, 1951: 30-47, pls 4-30. J. L. Barnard, 1969a: 115, figs 38, 39.

Records: MB 21E(1); KNY 166D, KNY 176C(A), KNY 179E(1); J 11K; L 458A; E 234; ZZ 3N; T 13L; VV 2J; AR 1R(1).

Distribution: Cosmopolitan.

Parajassa chikoa n. sp.

Fig. 11

Description of male (2,5 mm): Head as long as three pereon segments, ocular lobes moderately produced, distally rounded, eyes round; antenna 1 slightly shorter than pereon, articles 2 and 3 subequal, 1,5 times as long as 1, flagellum 4-articulate, accessory flagellum not seen, presumed vestigial; mandible (Fig. 11B) with large 3-articulate palp, article 1 shorter than 2, 2 equal to 3, 3 strongly setose distally, cutting edge of five strong teeth, lacinia mobilis apically bifurcate, spine row of two strong spines, molar large, tritulative; outer lobes of lower lip simple, neither notched nor excavate; maxilla 1 (Fig. 11D) bearing bi-articulate palp, distal article ending in five serrate blade-spines and three subterminal plumose setae, outer plate bearing seven strong serrate spines, inner plate simple; maxilliped (Fig. 11E) with 4-articulate palp, outer plate bearing seven medio-distal spines, inner plate with an oblique row of plumose setae and three small distal spines.

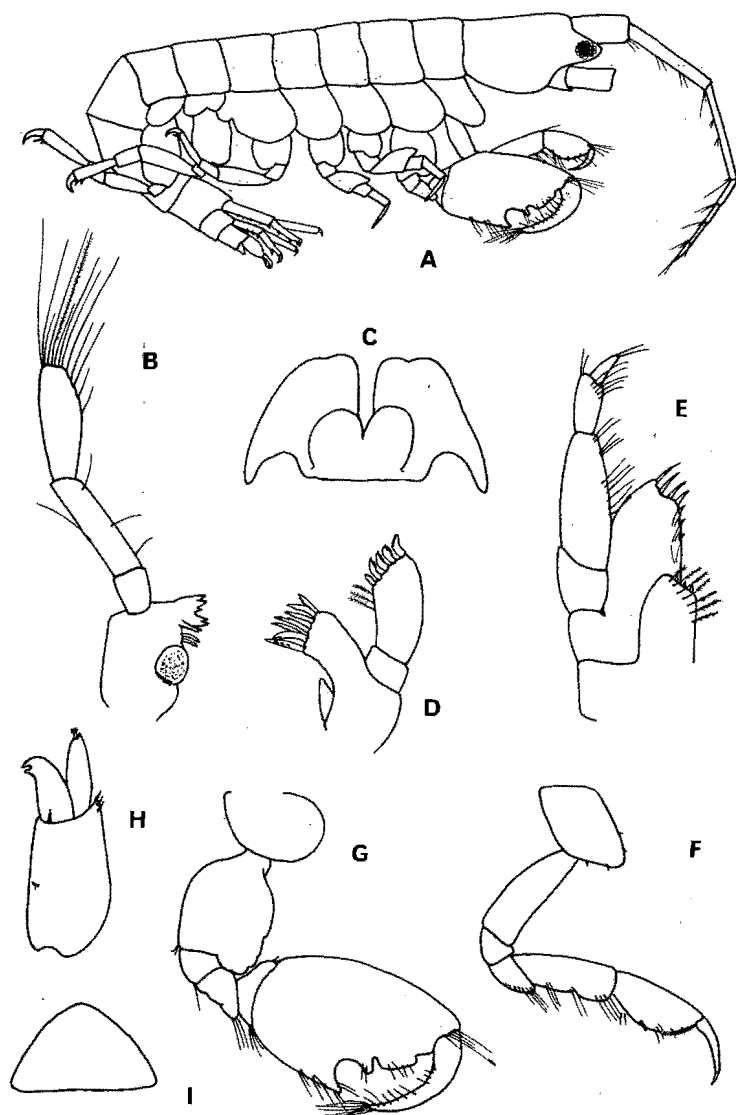


Fig. 11. *Parajassa chikoa* n. sp.
 Male, 2,5 mm: A—lateral aspect; B—mandible; C—lower lip; D—maxilla 1;
 E—maxilliped; F—gnathopod 1; G—gnathopod 2; H—uropod 3; I—telson.

Coxae 1-4 rounded, subequal, 5 bilobed, 6 and 7 each half as long as 5; gnathopod 1 (Fig. 11F) subchelate, palm pectinate, defined by a single small spine, dactyl slightly exceeding palm; gnathopod 2 (Fig. 11G) powerfully subchelate, article 2 distally lobed, the lobe extending proximally as an anterior keel, 5 cup-shaped, embracing the very large article 6, palm oblique, subequal to hind margin, bearing a flat-topped tooth near finger hinge, a conical tooth proximal to it then a strong semicircular concavity preceding the defining tooth, dactyl moderately thickened, bearing a row of small setae posteriorly and a fascicle of long setae at its apex; article 4 of pereopods 1 and 2 with antero-distal corner expanded, dactyl long, slender; article 2 of pereopod 3 subcircular, article 6 bearing a distal spine; pereopods 4 and 5 somewhat larger than 3 but of similar structure.

Pleon and urosome flexed beneath pereon; pleonal epimera rounded; urosomal segments subequal in length, uropods 1-3 extending equally; peduncle of uropod 1 with five dorsal spines, inner ramus slightly exceeding outer, each with a strong apical spine, outer ramus also with three dorsal spines; peduncle of uropod 2 with three dorsal spines, each ramus with two dorsal and a terminal spine, inner ramus slightly longer than outer; peduncle of uropod 3 (Fig. 11H) twice length of rami, inner ramus tapering evenly, apex bearing a single minute seta, outer ramus terminally upturned to form a pair of non-articulate hooks (one specimen showed three hooks on the one uropod 3 and two on the other); telson triangular, entire, smooth.

Holotype: SAM A13218, male, 2.5 mm.

Type locality: SCD 99M; 34°33'S/24°01'E, 21 July 1959, depth 130 m, substrate rock.

Relationships: Of the four existing species in this genus *Parajassa pelagica* Leach differs from *P. chikoa* n. sp. by virtue of its minute 2-articulate flagellum of antenna 1, while *P. angularis* Shoemaker has distinctive setose first and second uropods. The other two species, *P. tristanensis* (Stebbing) and *P. gorgoniana* (Schellenberg) are closely allied to *P. chikoa* n. sp. but have only a single tooth on the palm of gnathopod 2 and smaller hooks on the outer ramus of uropod 3.

Material: SCD 99M(1), SCD 343Z(1). (Both ♂♂).

Family Leucothoidae

Leucothoe ctenochir K. H. Barnard, 1925

Leucothoe ctenochir K. H. Barnard, 1925: 342, pl. 34, fig. 8.

Records: SCD 93N(2), SCD 159W(15), SCD 172S(2); MB 13M(1), MB 23J(1), MB 28H(1), MB 54U(1).

Distribution: Endemic to east coast of South Africa.

Leucothoe dolichoceras K. H. Barnard, 1916

Leucothoe dolichoceras K. H. Barnard, 1916: 157, pl. 26, fig. 14.

Records: SCD 181R(1); SST 11R(1); 34°S/25°E/137 m, 32°S/28°E/93 m (K. H. Barnard 1916).

Distribution: Endemic, Natal to west coast of South Africa.

Leucothoe richiardi Lessona, 1865

Leucothoe richiardi: K. H. Barnard, 1916: 150.

Leucothoe richiardi: Sivaprakasam, 1967b: 385, fig. 2.

Records: SCD 24M(2), SCD 131X(1), SCD 159Q(1), SCD 181Q(1), SCD 204U(1), SCD 244F(1), SCD 310E(1), SCD 353H(1); SST 9D(1), SST 11Q(18); SST 19D(1), SST 24F(2), SST 29B(2), SST 37V(1); MB 23F(4), MB 40F(1); 34°S/25°E/138 m, 33°S/28°E/121 m (K. H. Barnard 1916).

Distribution: Mediterranean, India, South Africa.

Leucothoe spinicarpa (Abildgaard, 1789)

Leucothoe spinicarpa: Sivaprakasam 1967b: 384, fig. 1.

Records: SCD 41R(2), SCD 95E(1), SCD 115D(1), SCD 172T(12), SCD 198X(1), SCD 253F(1), SCD 300U(1), SCD 302W(1), SCD 366M(3), SCD 366W(1); LIZ 37P(3), LIZ 40A(1); MB 23X(2), MB 50P(3), MB 54U(8), MB 69T(1); TRA 55W(1); LLL 6W; 32°S/28°E/174 m, 33°S/28°E/91 m (K. H. Barnard 1916).

Distribution: Cosmopolitan.

Family *Liljeborgiidae**Liljeborgia consanguinea* Stebbing, 1888

Liljeborgia consanguinea Stebbing, 1888: 980, pl. 91.

Records: 35°S/20°E/565 m (Stebbing 1910a).

Diagnosis: Each of pleon segments 1–5 produced into a small but distinct mid-dorsal tooth; coxae 1–3 each with a denticle at both distal corners, coxa 4 serrate posteriorly; pleonal epimera 1 and 2 postero-distally produced into a small point, that of third pleonal epimeron larger and upturned with a small sinus above; telson 60% cleft, a single spine at apex of each lobe; palm of gnathopod 2 male smooth.

Distribution: Antarctica, southern Indian Ocean.

Liljeborgia dubia (Haswell, 1880)

Eusirus dubius Haswell, 1880: 331, pl. 30, fig. 3.

Records: SCD 24R(3), SCD 120C(1), SCD 216E(1), SCD 349S(1), SCD 353R(1), SCD 366R(3); SST 5H(1), SST 9G(1), SST 16R(5), SST 18X(1).

Diagnosis: Pleon segments 1 and 2 each with five dorsal teeth, 3 with a minute tooth between two rounded lobes, 4 and 5 each with a strong carinate dorsal tooth; coxa 4 with two teeth on hind margin; postero-distal corner of third pleonal epimeron acute, slightly upturned; telson cleft nearly to base, a long spine in a notch at apex of each lobe; palm of gnathopod 2 male with an acute distal tooth.

Distribution: Australia, New Zealand, South Africa.

Liljeborgia epistomata K. H. Barnard, 1932

Liljeborgia epistomata K. H. Barnard, 1932: 144, fig. 83; 1955: 89, fig. 44.

Records: SCD 110W(1), SCD 135M(1), SCD 141P(4), SCD 222J(1), SCD 225L(1), SCD 376K(1).

Distribution: Endemic, Natal to Saldanha Bay.

Liljeborgia kinahani (Bate, 1862)

Liljeborgia kinahani: Chevreux & Fage, 1925: 157, fig. 157.

Records: SCD 262K(1), SCD 356K(1); MB 23H(2), MB 87F(3).

Diagnosis: Pleon segments 1 and 2 dorsally tridentate, 3 smooth, 4 and 5 each with a single dorsal tooth; coxae 1-3 without distal teeth; coxa 4 not serrate posteriorly; pleonal epimera 1 and 2 postero-distally produced into a minute tooth, third pleonal epimeron with a small sinus above postero-distal tooth; telson cleft nearly to base, lobes divergent, a long spine arising from a notch in apex of each lobe; palm of gnathopod 2 male smooth.

Distribution: North Atlantic, South Africa.

Liljeborgia palmata n. sp.

Fig. 12

Description of male (6 mm): Head as long as first two pereon segments, rostrum acute, slightly downturned, half length of article 1 of antenna 1, eyes absent; antenna 1 as long as peduncle of antenna 2, article 1 considerably longer than 2 plus 3, flagellum 19-articulate, twice length of peduncle, accessory flagellum 10-articulate; flagellum of antenna 2 14-articulate, as long as terminal article of peduncle; mandible (Fig. 12A) with 3-articulate palp, articles 1 and 2 subequal, longer than 3, primary cutting edge with three large teeth and numerous serrations, secondary cutting edge of five large teeth, spine row of eight spines, molar redundant, represented by a few spines; inner plate of maxilla 1 tipped by a single seta, outer plate bearing eight long pectinate spines, palp bi-articulate with eight small spines lining inner edge and four small setae along outer margin; plates of maxilla 2 subequal; inner plate of maxilliped bearing five terminal setae, outer plate with a row of seven medial spines and seven submarginal setae, palp 4-articulate.

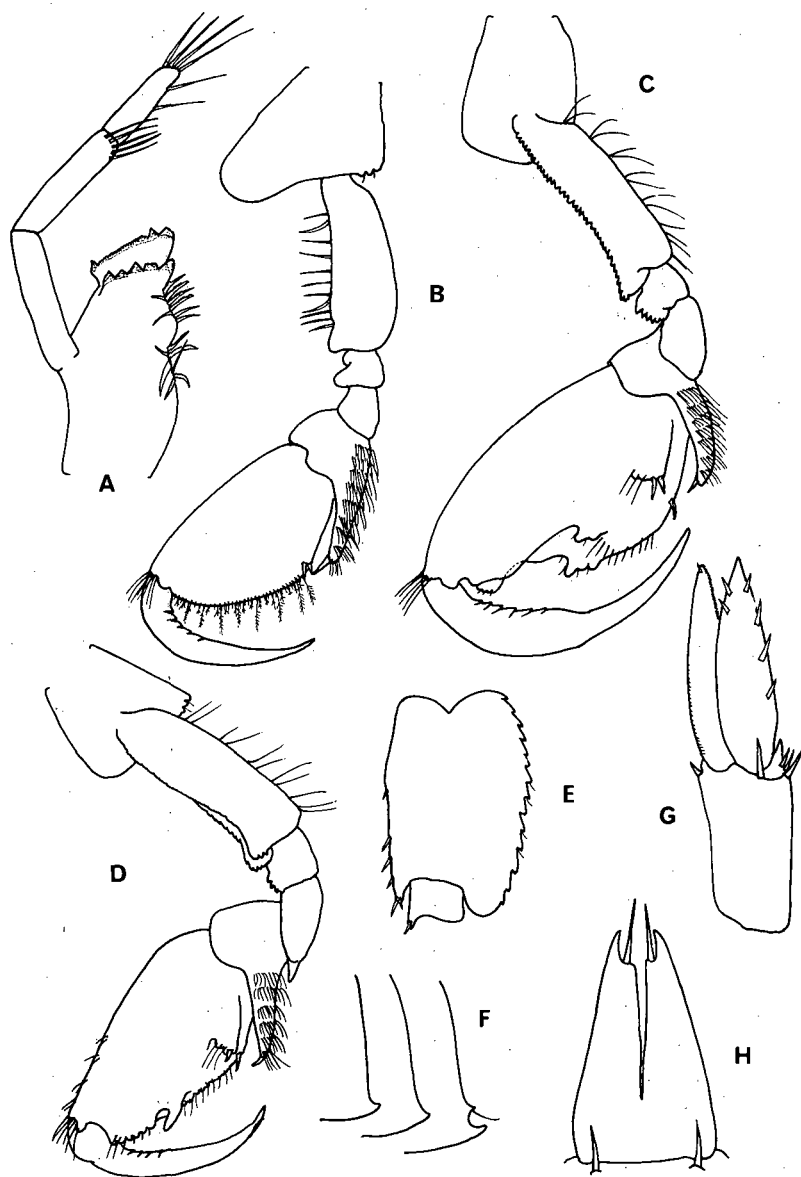


Fig. 12. *Liljeborgia palmata* n. sp.

Male, 6 mm: A—mandible; B—gnathopod 1; D—gnathopod 2; E—articles 2 and 3 of pereopod 5; F—pleonal epimera 1-3; G—uropod 3; H—telson.
Male, 10 mm: C—gnathopod 2 (inner aspect).

Coxae 1 and 2 each bearing two small postero-distal notches; gnathopod 1 (Fig. 12B) with a row of setae along anterior margin of article 2, articles 2 and 3 antero-distally lobed, 5 produced to protect 6 posteriorly, palm evenly convex, bearing alternating long and short setae, defined by two spines, dactyl bearing five proximal teeth; gnathopod 2 (Fig. 12D) larger than 1, article 2 bearing two serrate anterior keels which are distally produced into moderate lobes, article 3 with an antero-distal serrate lobe, article 6 tapering off from defining angle, palm irregularly toothed and varying greatly with age (Fig. 12C, D), dactyl with 4-6 proximal teeth, closing between defining spine and a spinose ridge arising from inner face of article 6; pereopods 1 and 2 slender; article 2 of pereopods 3-5 widened, posteriorly serrate, the serrations most marked on pereopod 5, where they number 14.

Pleonal tooth formula 1:1:0:1:1, the teeth on the first two segments appressed while those on segments 4 and 5 form carinae; postero-distal corner of pleonal epimera 1 and 2 produced into a small tooth, third pleonal epimeron with a semicircular concavity above postero-distal tooth and a second tooth bearing a single small seta above this (Fig. 12F); uropods extending about equally, peduncle of uropod 1 with a terminal spine, outer ramus marginally the shorter; uropod 2 with two dorsal spines on peduncle, outer ramus slightly the shorter; rami of uropod 3 (Fig. 12G) subequal, the outer naked but minutely pectinate on upper margin, the inner with four dorsal and two ventral spines; telson (Fig. 12H) 80% cleft, each lobe bearing a single strong seta in a subapical notch.

Female: Differing from the male only in the possession of brood plates and in the structure of gnathopod 2, which is slightly larger than gnathopod 1, but of the same structure.

Holotype: SAM A13221, male, 6 mm.

Type locality: SST 29G, 34°40'S/21°39'E, 21 June 1972, depth 80 m, substrate coarse shelly sand.

Relationships: Males of this species can easily be distinguished by the unusual shape of the palm of gnathopod 2 and by the serrate articles 2 and 3 of gnathopod 2. The female is similar to that of *Liljeborgia hansonii* Hurley, which is unfortunately known only from the female. However, Hurley describes his species as bearing red-brown eyes, whereas *L. palmata* n. sp. has no eyes.

Material: SST 16S(4), SST 29G(2).

Listriella sinuosa n. sp.

Fig. 13

Description of male (8 mm): Head only slightly longer than first pereon segment, postantennal angle smoothly rounded, eyes small, round, black; antenna 1 shorter than peduncle of antenna 2, articles 1 and 2 subequal, 3 very short,

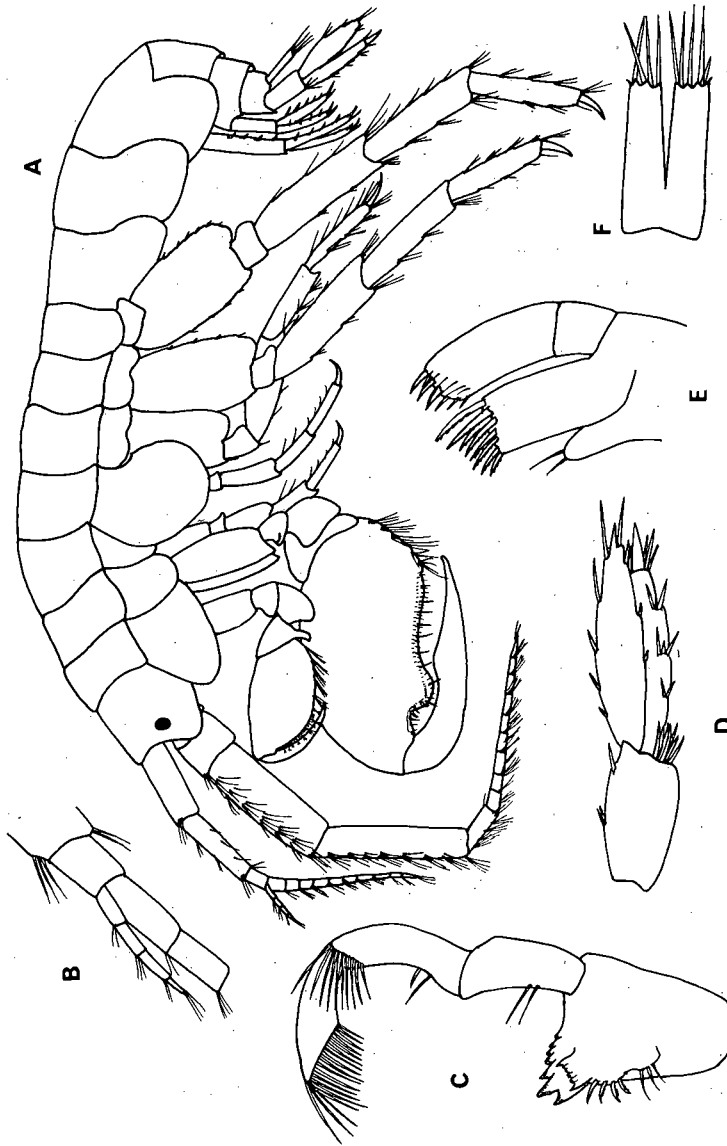


Fig. 13. *Listriella sinuosa* n. sp.

Male, 8 mm: A—lateral aspect; B—accessory flagellum; C—mandible; D—uropod 3; E—maxilla 1; F—telson.

flagellum 10-articulate, accessory flagellum (Fig. 13B) 4-articulate; antenna 2 as long as pereon, flagellum 10-articulate; mandible (Fig. 13C) with broad 3-articulate palp, articles 2 and 3 bearing rows of strong setae distally, incisor strongly chitinized, primary cutting edge with seven strong teeth, spine row of four spines, molar degenerate, represented by three setae; maxilla 1 (Fig. 13E) with two apical setae on inner plate and eight strong pectinate spines on outer plate, palp bi-articulate, tipped by three short spines and a row of short setae;

inner plate of maxilliped with three setae along inner margin and a spine and two setae at apex, outer plate with seven graduated spines along medial margin and three setae distally, palp 4-articulate.

Coxa 1 produced anteriorly, coxae 2 and 3 rounded, 4 nearly twice as long as 3, excavate posteriorly; gnathopod 1 much smaller than 2, palm evenly convex, lined with alternating long and short setae; gnathopod 2 very large, article 2 with two anterior keels, palm very long, bearing three small spines on a rounded convexity near finger hinge, otherwise bearing scattered short setae; pereopods 1 and 2 slender; article 2 of pereopods 3–5 widened; pereopods 4 and 5 very elongate, hind margins of article 2 feebly serrate.

Pleonal epimera all smoothly rounded postero-distally; uropod 1 with a row of about five dorsal peduncular spines, rami equal, spinose dorsally and apically; uropod 2 without peduncular spines, otherwise resembling uropod 1; uropod 3 (Fig. 13D) extending well beyond 1 and 2, peduncle bearing three dorsal and several ventral spines, rami subequal, the outer with a spiniform second article; telson (Fig. 13F) 80% cleft, each lobe bearing four large spines, a smaller spine and a minute seta across its truncated apex.

Holotype: SAM A13215, male, 8 mm, unique.

Type locality: SST 41P, 34°25'S/21°28'E, 21 June 1972, depth 50 m, substrate green mud.

Relationships: All other species in this genus, with the exception of *L. lindae* Griffiths, have a bi-articulate accessory flagellum. *L. sinuosa* can be distinguished from *L. lindae* by virtue of its smoothly rounded pleonal epimera and strongly setose telson, as well as by the structure of gnathopod 2.

Family Lysianassidae

Amaryllis macrophthalma Haswell, 1880

Amaryllis macrophthalma: J. L. Barnard, 1972a: 262–269, figs 156–158.

Records: SCD 172X(5), SCD 181L(1), SCD 198C(3), SCD 204W(3), SCD 227S(2), SCD 244Q(3), SCD 266S(3), SCD 300V(2), SCD 321V(1), SCD 379K(29); SST 16V(7), SST 29M(1); LIZ 17G(1), LIZ 29N(1), LIZ 37M(2); MB 16D(1), MB 20U(1), MB 40H(1), MB 50Y(1), MB 66N(1), MB 73L(3); KNY 57C(C), KNY 171H; TRA 55X(1), TRA 58X(1); LLL 6G; E 231A; KKN 43E; 'Algoa Bay', 33°S/27°E/112 m (K. H. Barnard 1916); 33°S/26°E/18–29 m (Stebbing 1908a).

Distribution: Cosmopolitan in southern hemisphere.

Aristias symbiotica K. H. Barnard, 1916

Aristias symbiotica K. H. Barnard, 1916: 121.

Records: SCD 55C(14).

Distribution: Endemic, Moçambique to South West Africa.

Cyphocaris faurei K. H. Barnard, 1916

Cyphocaris faurei K. H. Barnard, 1916: 117, pl. 26, fig. 4.

Records: 33°S/28°E/450–550 m (K. H. Barnard 1916).

Diagnosis: First pereon segment greatly enlarged and swollen anteriorly but not projecting over head; coxa 4 anteriorly and distally strongly convex, posterior margin concave on either side of a medial tooth; article 2 of pereopod 3 produced posteriorly as a curved spiniform process which extends to tip of article 5, both margins of the process entire; telson as long as urosome, 75% cleft, apices entire, lacking spines.

Distribution: Cosmopolitan, bathypelagic.

Euonyx conicurus K. H. Barnard, 1955

Euonyx conicurus K. H. Barnard, 1955: 80, fig. 38.

Records: SCD 102G(1), SCD 160C(3).

Diagnosis: Eyes present; article 1 of antenna 1 prominently lobed distally; pleon segment 4 depressed at base then raised posteriorly into a large forward-directed triangular carina.

Distribution: Endemic to south coast of South Africa.

Hippomedon onconotus (Stebbing, 1908)

Tryphosa onconotus Stebbing, 1908: 65, pl. 35.

Records: SCD 104V(1), SCD 104W(1), SCD 106U(1), SCD 120D(2), SCD 202F(3), SCD 204V(1), SCD 211X(1), SCD 216N(22), SCD 225M(2), SCD 235U(5), SCD 343V(6), SCD 350N(1), SCD 391L(4), SCD 392S(5); SST 18Y(2), SST 24R(1), SST 62J(3), SST 63M(2), SST 65H(1), SST 67P(1), SST 68Q(3), SST 70P(1), SST 74E(1).

Distribution: Endemic to South Africa.

Ichnopus taurus Costa, 1853

Ichnopus macrobetomma Stebbing, 1917: 38, pl. 96 A.

Ichnopus taurus: Chevreux & Fage, 1925: 48, fig. 30.

Records: 33°S/27°E/91 m (K. H. Barnard 1916); 33°S/28°E/47 m (Stebbing 1917).

Diagnosis: Eyes very large; antennae slender; upper lip slightly produced in front of epistome; mandibular molar laminate, palp attached level with molar; gnathopod 1 simple, slender, dactyl strongly spinose posteriorly; dactyl of gnathopod 2 minute; gills plated on both sides; pereopod 5 much longer than 4; inner ramus of uropod 2 constricted; telson deeply cleft.

Distribution: Mediterranean, North Atlantic, South Africa.

Lepidepecreum twalae n. sp.

Fig. 14

Description of female (2,5 mm): Head dorsally shorter than first pereon segment, produced below antenna 1 into a large apically rounded lobe, eyes present but almost colourless in preserved animal; article 1 of antenna 1 (Fig. 14B) laterally flattened but not dorsally carinate, almost as tall as head, articles 2 and 3 much smaller, flagellum 5-articulate, shorter than peduncle, accessory flagellum small, bi-articulate; antenna 2 (Fig. 14C) not much longer than 1, article 3 elongate, flagellum 3-articulate, about as long as terminal article of peduncle; mandible (Fig. 14D) with smooth incisor, spine row of three spines, molar setulose, of moderate size, palp 3-articulate, attached proximal to molar, article 2 very elongate, article 3 finely setulose throughout and bearing three lateral and three terminal setae; maxilla 1 (Fig. 14E) with bi-articulate palp, article 2 terminating in 6 blade spines and a small seta, outer plate bearing ten powerful serrate spines, inner plate with two setae at its tip; plates of maxilla 2 (Fig. 14F) subequal; maxilliped (Fig. 14G) with 4-articulate palp, outer plate bearing 12 nodular spines along medial margin and an oblique row of five larger spines submarginally, inner plate with two distal spines and six medial plumose setae.

Pereon dorsally smooth, coxae 1-4 all visible, elongate and distally touching their partners on the opposite side, coxa 4 excavate posteriorly, 5-7 subcircular; gnathopod 1 (Fig. 14I) subchelate, palm transverse, defined by two large spines, dactyl with accessory tooth; gnathopod 2 (Fig. 14H) chelate, article 5 slightly longer than 6, both distally setulose; article 2 of pereopods 1 and 2 slender; article 2 of pereopods 3-5 rotund, article 4 produced into a postero-distal lobe.

Pleon segments 1-3 dorsally smooth, pleonal epimera postero-distally rounded; pleon segment 4 bearing a large dorsal triangular carina; uropods 1-3 all projecting equally; uropod 3 (Fig. 14K) with equal rami, inner ramus with three large spines on dorsal margin, outer ramus with two spines at apex of article 1, article 2 triangular, tapering evenly; telson (Fig. 14L) twice as long as wide, 70% cleft, each lobe tipped by a small spine and with a short mid-dorsal plumose seta.

Holotype: SAM A13220, female, 2,5 mm, unique.

Type locality: SCD 343W, 36°39'S/23°41'E, 11 February 1962, depth 121 m, substrate shelly sand.

Relationships: This species can be distinguished from most others in the genus by the lack of carinae on the pereon and on article 1 of antenna 1. These features are also absent in *Lepidepecreum typhlops* Bonnier and *L. cingulatum* K. H. Barnard, but of these the former lacks eyes and the latter does not have a carina on the fourth pleon segment.

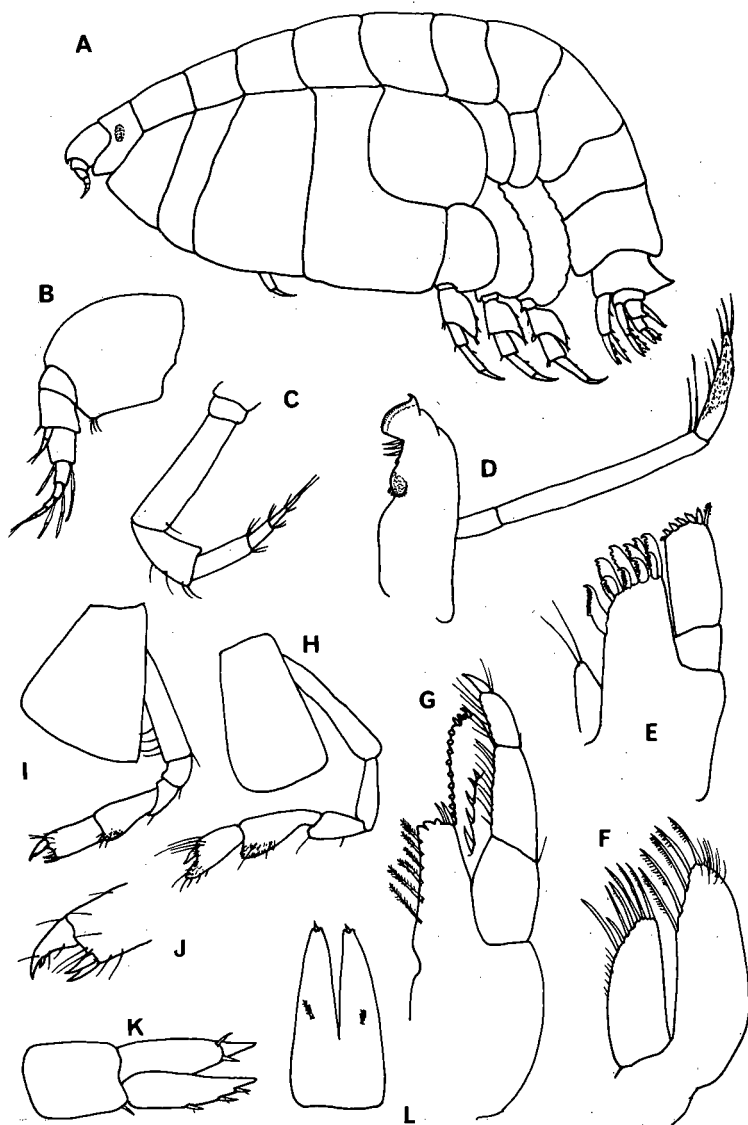


Fig. 14. *Lepidepcreum twalae* n. sp.

Female, 2,5 mm: A—lateral aspect; B—antenna 1; C—antenna 2; D—mandible; E—maxilla 1; F—maxilla 2; G—maxilliped; H—gnathopod 2; I—gnathopod 1; J—enlargement of palm of gnathopod 1; K—uropod 3; L—telson.

Lysianassa ceratina (Walker, 1889)

Lysianassa cubensis: K. H. Barnard, 1916: 120.

Lysianassa ceratina: Chevreux & Fage, 1925: 42, fig. 23.

Records: SCD 160D(9), SCD 173V(2), SCD 211Y(3), SCD 230E(1), SCD 235Z(1), SCD 310D(28), SCD 373N(15), SCD 374J(8); SST 47C(3), SST 47D(3); LIZ 25M(1), LIZ 32Z(1); MB 40G(1), MB 54Y(1), MB 57A(4), MB 73N(4); KNY 166K; BRE 144C(1); L 476; X 22D; Y 12H; E 231; ZZ 30; T 13K; KN 2E; SS 55A; 33°S/27°E/120 m, 33°S/28°E/78 m (K. H. Barnard 1916); Port Elizabeth, East London (K. H. Barnard 1940).

Distribution: Mediterranean, Atlantic, Indian Ocean.

Lysianassa variegata (Stimpson, 1855)

Lysianassa variegata: Stebbing, 1888: 682, pl. 23.

Records: SCD 10U(2), SCD 148L(3), SCD 179M(1), SCD 181Y(1), SCD 189D(1), SCD 204T(1), SCD 262L(1), SCD 312S(2), SCD 338D(20), SCD 370M(14), SCD 376M(8), SCD 388E(1); SST 16W(1), SST 29N(1); LLL 6F; 33°S/26°E/18–29 m (Stebbing 1910a).

Distribution: Africa south of the equator.

Orchomene plicata (Schellenberg, 1925)

Orchomenopsis chilensis Schellenberg 1925: 119, fig. 3. K. H. Barnard 1925: 330.

Orchomenella plicata: K. H. Barnard, 1940: 440.

Records: SCD 20K(A), SCD 24G(3), SCD 287A(88); SST 65J(8); MB 28E(2), MB 61T(1), MB 73P(3); KNY 57C; Plettenberg Bay (K. H. Barnard 1940—as *Microlysias xenoceras*).

Distribution: Cosmopolitan.

Phoxostoma algoense K. H. Barnard, 1925

Phoxostoma algoense K. H. Barnard, 1925: 323, pl. 34, fig. 2.

Records: Algoa Bay, 65 m (K. H. Barnard 1925).

Diagnosis: Eyes large, meeting on top of head; body lacking carinae but with scattered setules; mouthparts forming a conical bundle; mandible slender, molar obsolete, palp attached proximal to molar; palp of maxilliped exceeding outer plate, article 4 small; gnathopod 1 simple, article 6 longer than 5; gnathopod 2 minutely chelate; third pleonal epimeron quadrate, telson deeply insinuate.

Distribution: Endemic to South Africa.

Socarnopsis crenulata Chevreux, 1910

Socarnopsis crenulata: K. H. Barnard, 1916: 124. Chevreux & Fage, 1925: 49, figs 31, 32.

Records: SCD 81E; SST 17Z(1), SST 29P(8), SST 32K(4), SST 34M(2), SST 45H(1); 33°S/27°E/120 m (K. H. Barnard 1916).

Diagnosis: Eyes large; upper lip and epistome together produced forwards into a lobe; mandibular molar ridged, palp attached proximal to molar, its second article very elongate; gnathopod 1 simple; dactyl of gnathopod 2 minute; gills plaited on both sides; outer ramus of uropod 3 with a minute second article; telson 80% cleft.

Distribution: Mediterranean, Atlantic, South Africa.

Stomacontion prionoplax Monod, 1937

Fig. 15

Stomacontion prionoplax Monod, 1937: 6, figs. 1-6.

Records: SCD 179N(1), SCD 244T(1).

Diagnosis: Coxa 1 rectangular, projecting over the side of the head and partly obscuring the eye; gnathopod 1 simple, article 5 as wide as long, dactyl powerful; articles 2 and 3 of pereopod 5 strongly lobed anteriorly; pleon segment 4 bearing a triangular dorsal carina; uropod 3 lacking rami or rami vestigial.

Distribution: This is the first record of this species from southern Africa. It was previously known only from the Suez Canal.

Remarks: The present material so closely resembles Monod's that I have no hesitation in equating the two. Of particular note is the identical structure of the mouthparts, particularly the unusual outer plate of the maxilliped, and of pereopod 5. The specimen figured here is much larger (5 mm) than Monod's and has smaller eyes. My other specimen, however, is of comparable size to Monod's and has similar sized eyes. The only significant feature distinguishing the South African form is the absence of the obscure vestigial ramus of uropod 3 described by Monod. The apparent variability of this feature, in addition to other intergrading features, renders the maintenance of any distinction between the genera *Stomacontion* and *Acontiotoma* superfluous, at least as they are defined at present, and the two genera should be united.

Trischizostoma remipes Stebbing, 1908

Trischizostoma remipes Stebbing, 1908a: 61, pl. 34. K. H. Barnard, 1925: 321.

Records: SCD 159P(10); SST 47A(2); 33°S/28°E/86 m, 34°S/23°E/58 m (Stebbing 1908a); 'Cape Point to East London' (K. H. Barnard 1916).

Distribution: Endemic, Natal to False Bay.

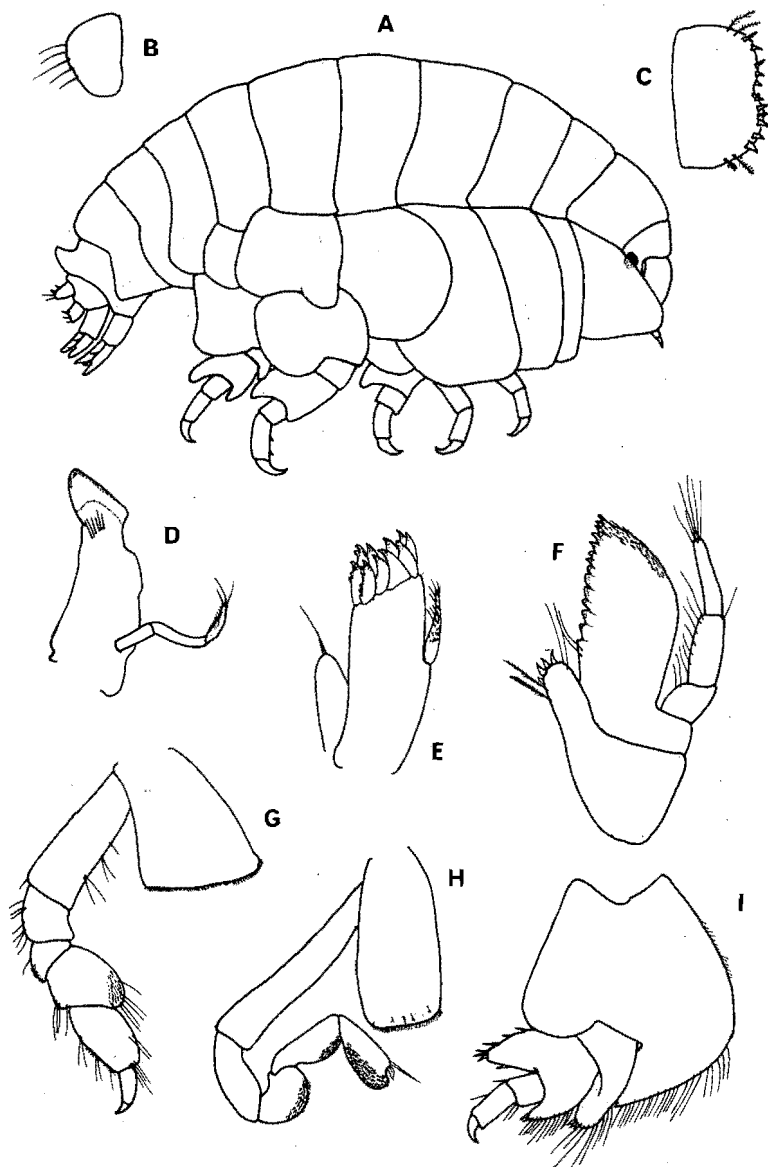


Fig. 15. *Stomacontion prionoplax* Monod, 1937

Male, 5 mm: A—lateral aspect; B—uropod 3; C—telson; D—mandible; E—maxilla 1; F—maxilliped; G—gnathopod 1; H—gnathopod 2; I—pereiopod 5.

Trischizostoma serratum K. H. Barnard, 1925

Trischizostoma serratum K. H. Barnard, 1925: 320, pl. 34, fig. 1.

Records: SCD 366L(1).

Distribution: Endemic, Natal to False Bay.

Tryphosella africana K. H. Barnard, 1955

Tryphosella africana K. H. Barnard, 1955: 81.

Records: SCD 135E, SCD 198B(38), SCD 227T(1), SCD 236B(1), SCD 273F(3), SCD 338S(1), SCD 345W(9), SCD 348Z(11), SCD 349P(1), SCD 356U(2), SCD 376D(3), SCD 381U(1); SST 16X(1), SST 24S(2), SST 34L(1), SST 45G(2), SST 65C(5).

Diagnosis: Lateral lobes of head moderately acute, eyes absent; article 4 of antenna 1 male broadly oval, width more than half length; article 6 of gnathopod 1 ovoid, palm oblique, equal to hind margin; third pleonal epimeron greatly produced postero-distally into an acute upturned tooth; pleon segment 4 with a rounded dorsal hump; telson tapering evenly, bearing two pairs of dorsal spines and a spine and seta at apex of each lobe.

Distribution: Endemic to South Africa.

Tryphosella normalis K. H. Barnard, 1955

Tryphosella normalis K. H. Barnard, 1955: 80, fig. 39.

Records: SCD 110X(4), SCD 173Z(2), SCD 192Z(7); SST 5C(1), SST 18Z(4), SST 24T(1), SST 32L(1), SST 34D(3), SST 52R(3), SST 54F(1), SST 60L(2), SST 74F(1), SST 78G(2).

Distribution: Endemic, Natal to South West Africa.

Uristes sulcus n. sp.

Fig. 16

Description of female (3 mm): Head dorsally shorter than first two pereon segments, lateral lobes subacute, extending half length of article 1 of antenna 1; eyes obscure, composed of about seven scattered ommatidia; article 1 of antenna 1 large, longer than 2 and 3 together, flagellum 6-articulate, the first segment much the largest, accessory flagellum 3-articulate; antenna 2 exceeding 1, flagellum 9-articulate; mandible (Fig. 16B) with smooth heavily chitinized incisor, spine row of three spines, molar large, oval, ridged, palp 3-articulate, attached level with distal margin of molar; maxilla 1 (Fig. 16C) with two plumose setae at apex of inner plate, nine strong serrate spines at tip of outer plate, palp bi-articulate, terminating in nine small spine-teeth; palp of maxilliped (Fig. 16D)

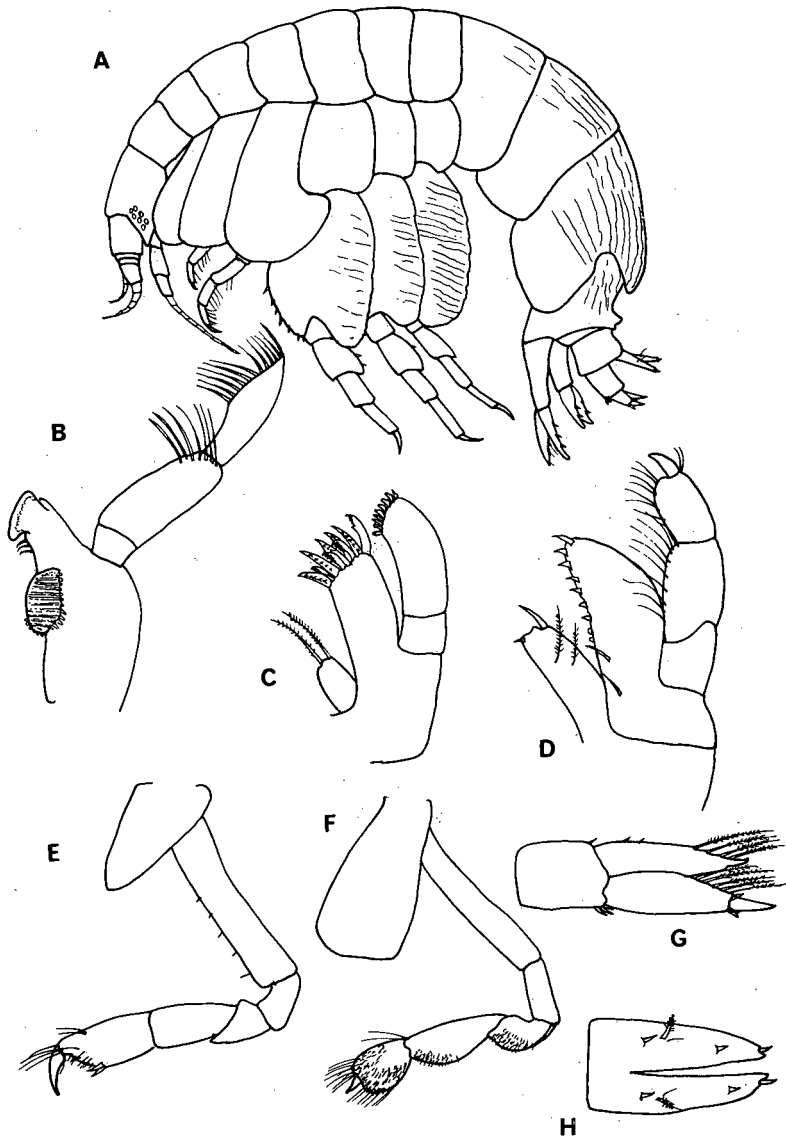


Fig. 16. *Uristes sulcus* n. sp.
 Female, 3 mm. A—lateral aspect; B—mandible; C—maxilla 1; D—maxilliped;
 E—gnathopod 1; F—gnathopod 2. Male, 4 mm: G—uropod 3; H—telson.

4-articulate, article 2 slightly longer than 1, article 4 small, outer plate with a row of nine spines along medial edge, inner plate bearing two plumose setae and two terminal spines.

Coxa 1 tapering evenly, about 80% length of coxa 2 which is rectangular and expanded somewhat distally; gnathopod 1 (Fig. 16E) subchelate, article 6 slightly longer than 5, palm oblique and subequal to hind margin, defined by two strong spines, dactyl without strong accessory tooth; gnathopod 2 (Fig. 16F) with setulose distal articles, 6 shorter than 5, palm transverse, dactyl small, partially concealed by setae; pereopods 1 and 2 slender; article 2 of pereopods 3–5 large, oval, bearing successively more obvious horizontal ridges.

Pleon segments 1–3 large, the integument bearing numerous longitudinal furrows and ridges, these being particularly obvious on the dorsal surface of pleon segment 3; pleonal epimera smoothly rounded; postero-dorsal section of pleon segment 3 produced as a hood-like lobe arching over proximal portion of pleon segment 4; pleon segment 4 with a small dorsal carina distally; outer ramus of uropod 1 slightly the longer, bearing three dorsal spines, inner ramus with two dorsal spines; outer ramus of uropod 2 with two dorsal spines, inner ramus not constructed, bearing a single medio-dorsal spine; peduncle of uropod 3 with a single dorsal spine and three ventral spines, rami naked, lanceolate, inner equal to article 1 of the outer; telson 80% cleft, a dorsal seta, two dorsal spines and a terminal spine to each lobe.

Male: The male of this species differs from the female by virtue of its longer second antennae, which reach half the length of the pereon, by the slightly larger carina on pleon segment 4 and by the setose third uropods (Fig. 16G).

Holotype: SAM A13224, male, 4 mm.

Type locality: SCD 230D, 34°04'S/23°26'E, 29 November 1960, depth 43 m, substrate yellow sand.

Relationships: J. L. Barnard (1962), in his revision of the genus *Uristes*, has drawn into it species previously assigned to some five other genera. The genus now contains species in which the condition of gnathopod 1 ranges from simple through to fully subchelate. *Uristes sulcus* n. sp. falls into that section, having an oblique, well-defined palm of gnathopod 1. It can be distinguished from others in that group by the presence of eyes and by the rounded pleonal epimeron, as well as by virtue of the unusual ridging on the pereopods and pleon from which its name has been derived.

Material: SCD 230D(2); SST 29L(1), SST 37X(2).

Uristes natalensis K. H. Barnard, 1916

Uristes natalensis K. H. Barnard, 1916: 126.

Records: 33°S/27°E/110 m (K. H. Barnard 1916).

Distribution: Endemic to south and east coasts of South Africa.

Family **Ochlesidae***Ochlesis lenticulosus* K. H. Barnard, 1940

Ochlesis lenticulosus K. H. Barnard, 1940: 447, fig. 23.

Records: SCD 244G(1); SST 11V(4).

Distribution: Endemic, Natal to False Bay.

Ochlesis levetzowi Schellenberg, 1953

Ochlesis levetzowi Schellenberg, 1953: 115, fig. 4. J. L. Barnard, 1969b: 372, fig. 134a.

Records: SCD 308G(5).

Distribution: Endemic, south coast of South Africa to South West Africa.

Family **Oedicerotidae***Periocolodes longimanus* (Bate & Westwood, 1868)

Periocolodes longimanus: Chevreux & Fage, 1925: 162, figs 163, 164.

Records: SCD 115E(1), SCD 122H(1), SCD 128T(1), SCD 135C(1), SCD 198V(6), SCD 202G(1), SCD 211W(3), SCD 225K(2), SCD 227X(1), SCD 244L(2), SCD 257K(5), SCD 267K(1), SCD 273J(3), SCD 276N(1), SCD 278H(7), SCD 282T(2), SCD 285M(2), SCD 329Z(1), SCD 332T(2), SCD 338F(18), SCD 339S(1), SCD 343X(1), SCD 345X(1), SCD 368R(1), SCD 376J(3), SCD 379P(3), SCD 381T(1), SCD 383S(1), SCD 391M(5); SST 24K(4), SST 29K(1), SST 32H(1), SST 34G(2), SST 40T(2), SST 45C(3), SST 52S(5), SST 54F(1), SST 56R(1), SST 60K(1), SST 61L(2), SST 63P(1), SST 65F(7), SST 67N(1), SST 73H(1), SST 76N(1), SST 78E(1), SST 81C(1).

Distribution: Mediterranean, Atlantic, Indian Ocean.

Westwoodilla manta n. sp.

Fig. 17

Description of male (6 mm): Head as long as first three pereon segments, rostrum almost half length of head (Fig. 17A), rod-like in shape, not deflexed, its apex smoothly rounded; eyes dorsally coalesced, situated at apex of rostrum; post-antennal angle of head rounded; antenna 1 slightly exceeding peduncle of antenna 2, flagellum 14-articulate; antenna 2 as long as pereon, flagellum 59-articulate; mandible (Fig. 17B) with 3-articulate palp, second article setose, moderately curved, article 3 subequal to 2, article 1 short, incisor of mandible not toothed but strongly chitinized, lacinia mobilis consisting of a small flattened plate, spine row of three spines, molar large, weakly ridged.

Coxa 1 marginally setose, distally expanded and produced forwards as a

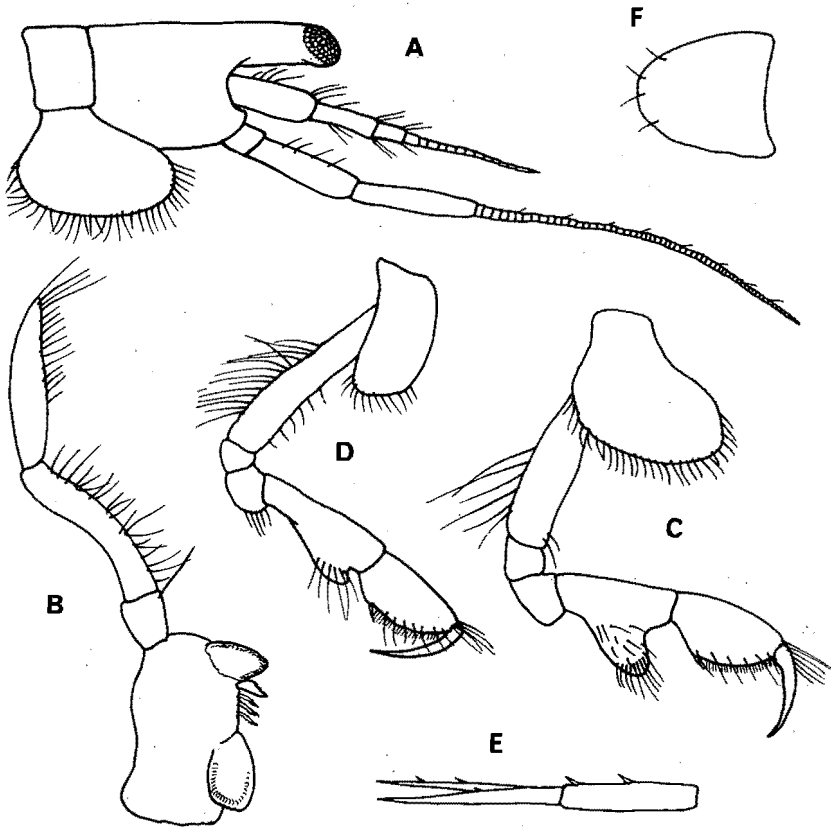


Fig. 17. *Westwoodilla manta* n. sp.
Male, 6 mm: A—head; B—mandible; C—gnathopod 1; D—gnathopod 2;
E—uropod 3; F—telson.

broad lobe; gnathopod 1 subchelate (Fig. 17C), article 5 moderately lobed, the lobe not protecting article 6 posteriorly, palm oblique, bearing alternating long and short setae, defined by a single small spine; coxa 2 rectangular; article 5 of gnathopod 2 (Fig. 17D) less strongly lobed than that of gnathopod 1, the lobe projecting at right-angles, not protecting article 6, palm oblique, setose, defined by a small spine; coxae 3 and 4 oval, 4 not excavate posteriorly, coxa 5 bilobed; pereopods 1 and 2 slender, articles 4–6 strongly setose posteriorly, dactyl powerful, longer than article 6; pereopods 3–5 successively larger, 5 very elongate.

Pleonal epimera smoothly rounded postero-distally; uropods 1–3 very slender, projecting equally, in each case outer ramus fractionally the shorter; telson (Fig. 17F) smoothly rounded, bearing four small setae distally.

Holotype: SAM A13223, male, 6 mm, unique.

Type locality: SCD 24W, 34°07'S/23°23'E, 26 May 1958, depth 46 m, substrate rock.

Relationships: The very elongate straight rostrum of this species is unusual. Most other members of the genus show a deflexed rostrum seldom extending to the tip of article 1 of antenna 1. Exceptions to this norm include *Westwoodilla acutifrons* Gurjanova, *W. longidactyla* Carausu and *W. rectirostris* Chevreux. However the rostrum of *W. acutifrons*, as the name suggests, terminates acutely and the eyes are medial rather than terminal. In *W. longidactyla* the eyes occupy the whole rostrum and the flagellum of antenna 1 does not exceed the length of articles 2 plus 3 of the peduncle. *W. rectirostris* bears the closest resemblance to *W. manta* n. sp. but differs from it by having longer antennae and the tip of the rostrum produced into an acute-tipped upturned process.

Family Paramphithoidae

Epimeria cornigera (Fabricius, 1779)

Epimeria cornigera: Chevreux & Fage, 1925: 191, figs 198–200.

Records: 33°S/28°E/550 m (K. H. Barnard 1916).

Diagnosis: Pereon segment 7 (and sometimes 6) and pleon segments 1–3 each bearing a pronounced dorsal carina flanked by a pair of subdorsal ridges; pleon segment 4 bearing a strong dorsal carina terminating in an acute tooth; coxae 1–5 all terminating acutely; third pleonal epimeron with an accessory tooth on posterior margin above the acute postero-distal corner.

Distribution: North Atlantic, Mediterranean, South Africa.

Family Pardaliscidae

Nicippe tumida Bruzelius, 1859

Nicippe tumida: J. L. Barnard, 1959b: 39–40, figs 1, 2.

Records: SCD 95K(1).

Diagnosis: Article 2 of antenna 1 shorter than article 1; gnathopods slightly subchelate, articles 5 and 6 stout, 5 with a large posterior lobe, shorter than 6, palm undefined; article 2 of pereiopods 3–5 not inflated; pleon segment 4 bearing two contiguous small dorsal teeth; telson deeply cleft.

Distribution: Cosmopolitan.

Pardisynopia anacantha (K. H. Barnard, 1925)

Halice anacantha K. H. Barnard, 1925: 347, pl. 34, fig. 12.

Pardisynopia anacantha: J. L. Barnard, 1969b: 400.

Records: SCD 343Y(4); SST 17Y(2).

Diagnosis: Article 2 of antenna 1 shorter than article 1; flagellum of antenna 1

fully segmented, article 1 less than half length of peduncular article 1, accessory flagellum 2-articulate, basal article as long as articles 1–3 of primary flagellum; eyes absent; gnathopods simple; pereon and pleon without any dorsal teeth; third pleonal epimeron postero-distally quadrate; telson twice as long as broad, cleft nearly to base, lobes strongly dehiscent, their apices bifid.

Distribution: Endemic to South Africa.

Remarks: The above observations on the condition of antenna 1 confirm J. L. Barnard's provisional placing of this species in *Pardisynopia* (J. L. Barnard 1969b).

Family Phoxocephalidae

Mandibulophoxus stimpsoni (Stebbing, 1908)

Pontharpinia stimpsoni Stebbing, 1908a: 75, pl. 11.

Mandibulophoxus stimpsoni: J. L. Barnard, 1957: 436–438, figs 3, 4.

Records: SCD 83C(11), SCD 94X(1), SCD 104S(4), SCD 120A(1), SCD 122C(16), SCD 128R(9), SCD 138B(18), SCD 141N(1), SCD 141S(2), SCD 148G(15), SCD 151F(1), SCD 173S(2), SCD 188B(12), SCD 194V(3), SCD 198W(1), SCD 199G(3), SCD 202A(1), SCD 204P(3), SCD 211S(6), SCD 216N(1), SCD 222K(1), SCD 225G(4), SCD 228A(3), SCD 320A(6), SCD 232H(2), SCD 235V(1), SCD 262P(1), SCD 267H(4), SCD 273G(1), SCD 285K(11), SCD 286G(1), SCD 287B(1), SCD 288H(1), SCD 300T(1), SCD 310J(10), SCD 315W(8), SCD 321S(1), SCD 326J(1), SCD 329T(8), SCD 338B(15), SCD 343S(3), SCD 345T(9), SCD 348X(15), SCD 349L(8), SCD 350K(14), SCD 353K(2), SCD 356Q(2), SCD 370L(5), SCD 376E(9), SCD 381N(9), SCD 383R(3), SCD 384Q(4), SCD 391G(14), SCD 392V(4); SST 1C(1), SST 5D(3), SST 9A(3), SST 16C(2), SST 19C(4), SST 24G(10), SST 29A(52), SST 32A(7), SST 34C(17), SST 52Q(2), SST 54A(2), SST 56Q(16), SST 60H(13), SST 61K(4), SST 62L(3), SST 63N(1), SST 65A(7), SST 67L(4), SST 68P(8), SST 70N(7), SST 73E(6), SST 74C(5), SST 76L(3), SST 77B(18), SST 78F(2); MB 66U(4), MB 71G(3); 33°S/28°E/86 m, 33°S/26°E/18–29 m (Stebbing 1910a).

Distribution: West and South Africa.

Paraphoxus oculatus Sars, 1891

Paraphoxus oculatus: J. L. Barnard, 1960: 240–243, pls 27, 28.

Records: SST 81D(2).

Diagnosis: Rostrum tapering evenly in front of the eyes, apically rounded; third pleonal epimeron not produced postero-distally, outer surface without a setal row; article 6 of gnathopods 1 and 2 widened; telson cleft almost to base.

Distribution: Circumboreal.

Platyischnopus herdmani Walker, 1904

Platyischnopus capensis K. H. Barnard, 1925: 338, pl. 34, figs 13, 14.

Platyischnopus herdmani: Rabindranath, 1971: 521, figs 1, 2.

Records: SCD 198J(2), SCD 211U(1), SCD 244D(3), SCD 338N(2), SCD 376H(1); SCD 381W(1); SST 29J(1), SST 45B(1), SST 56T(1), SST 59J(1), SST 77C(1).

Distribution: India, South Africa.

Remarks: The genus *Platyischnopus* has been moved from Haustoriidae to Phoxocephalidae as proposed by Bousfield (1970).

Family Podoceridae

Laetmatophilus purus Stebbing, 1888

Laetmatophilus purus Stebbing, 1888: 1198, pl. 132.

Records: SCD 95H(1), SCD 127P(2), SCD 198K(1), SCD 204S(2), SCD 211T(2), SCD 216B(1); SST 32J(1); Q 7K; 34°S/25°E/138 m (K. H. Barnard 1916).

Distribution: Endemic, Moçambique to South West Africa.

Podocerus africanus K. H. Barnard, 1916

Podocerus africanus K. H. Barnard, 1916: 278, pl. 28, figs 24, 25; 1937: 176, fig. 19.

Records: LIZ 40D(8); J 11D; L 503; SS 55N.

Distribution: Arabia, Natal to South West Africa.

Podocerus brasiliensis (Dana, 1853)

Podocerus brasiliensis: J. L. Barnard, 1971: 117, figs 58–60.

Records: L 484, L 485.

Distribution: Cosmopolitan in tropical and temperate seas.

Podocerus cristatus (Thompson, 1879)

Podocerus cristatus: J. L. Barnard, 1962: 67, fig. 31.

Records: SCD 95B(2), SCD 102F(3), SCD 122G(1), SCD 302R(2), SCD 308H(4), SCD 392W(2); KNY 166L.

Distribution: Cosmopolitan in tropical and warm temperate seas.

Podocerus hystrix Stebbing, 1910

Podocerus hystrix Stebbing, 1910b: 622, pl. 58.

Records: SST 11P(16).

Diagnosis: Head with very short triangular rostrum and a large forward-directed

medio-dorsal process; pereon segment 1 with two medio-dorsal carinae; remaining pereon segments and pleon segments 1 and 2 bearing successively larger backward-directed processes each flanked by a pair of smaller lateral processes; lateral margins of pereon segments produced over the coxae; coxa 1 acutely produced forwards, 2-4 acutely produced ventrally; palm of gnathopod 2 defined by two spines, that of male with a small tooth near finger hinge.

Distribution: This is the first record of this species from Africa. It was previously known only from Australia.

Podocerus inconspicuus (Stebbing, 1888)

Podocerus palinuri K. H. Barnard, 1916: 277, pl. 28, fig. 23.

Podocerus inconspicuus: Nagata, 1965: 322, fig. 43.

Records: SCD 24H(1), SCD 55J(1), SCD 135A(2), SCD 146C(2), SCD 172W(2), SCD 208J(1), SCD 249T(1), SCD 283G(2), SCD 302S(3), SCD 345V(5), SCD 353E(6), SCD 356R(1); SST 24H(1), SST 29H(2); MB 16E(2), MB 57C(1), MB 87E(3); SS 55M; 34°S/22°E/215 m, 34°S/23°E/84 m (K. H. Barnard 1916).

Distribution: Indo-Pacific, west coast of South Africa.

Podocerus multispinis K. H. Barnard, 1925

Podocerus multispinis K. H. Barnard, 1925: 367, pl. 34, fig. 18.

Records: SCD 208F(2), SCD 353D(1); 34°S/25°E/128 m (K. H. Barnard 1916).

Distribution: Endemic, Natal to Saldanha Bay.

Family Sebidae

Seba saundersi Stebbing, 1875

Paravalettia chelata K. H. Barnard, 1916: 112, pl. 26, figs 2, 3.

Seba saundersii: K. H. Barnard, 1957: 7, fig. 4.

Records: 33°S/28°E/? (K. H. Barnard 1957).

Diagnosis: Eyes absent; gnathopod 1 subchelate in juvenile, becoming fully chelate in adult, article 6 with a notch on posterior margin bearing 4-5 plumose setae, dactyl closely fitting palm; gnathopod 2 smaller than 1, slender, chelate; article 4 of pereopods 3 and 4 acutely produced half length of article 5, that of pereopod 5 strongly expanded; telson entire, triangular, apically bluntly rounded.

Distribution: Cosmopolitan.

Family Stegocephalidae

Parandania boeckii (Stebbing, 1888)

Parandania boeckii: J. L. Barnard, 1961: 57, fig. 27.

Records: 33°S/28°E/900 m (K. H. Barnard 1916).

Diagnosis: Accessory flagellum of antenna 1 uni-articulate, almost as long as article 1 of primary flagellum, which exceeds half length of peduncle; mandibular incisor untoothed; palp of maxilla 1 uni-articulate; article 2 of pereopod 3 slender, that of pereopods 4 and 5 broad; telson oval, entire.

Distribution: Cosmopolitan, pelagic.

Stegocephaloides australis K. H. Barnard, 1916

Stegocephaloides australis K. H. Barnard, 1916: 129, pl. 28, fig. 29.

Records: SCD 181K(1); SST 1F(1), SST 9E(1), SST 11U(11), SST 19F(1), SST 24P(1).

Diagnosis: Head almost hidden under the tumid first pereon segment; eyes absent; coxae forming a continuous shield, 4 deeper than its pereon segment, the posterior and distal margins differentiated by a rounded angle; article 2 of pereopod 5 distally produced into an evenly rounded process reaching to apex of article 4; hind margin of article 2 of pereopod 5 feebly serrate; third pleonal epimeron postero-distally rounded.

Distribution: Endemic to South Africa.

Family *Stenothoidae*

Parametopa grandimana n. sp.

Fig. 18

Description of male (3 mm): Head slightly shorter than two pereon segments, eyes of moderate size, colourless; antenna 1 exceeding length of body, articles 1 and 2 subequal, each more than twice length of article 3, flagellum of 25 elongate articles, twice as long as peduncle, accessory flagellum absent; antenna 2 half as long as 1, flagellum 9-articulate; mandible (fig. 18B) with palp represented by a single seta, cutting edge strongly toothed, spine row of 10 spines, the first three pectinate, molar absent; palp of maxilla 1 (Fig. 18C) uni-articulate, tipped by seven spines, outer plate terminating in four strong serrate spines and two small simple ones, inner plate bearing single apical seta; outer plate of maxilla 2 (Fig. 18D) with four apical spines, inner plate bearing three setae; inner plates of maxilliped (Fig. 18E) small, each bearing a single spine, outer plate vestigial, palp 4-articulate.

Coxa 1 small, covered by coxa 2, which is produced anteriorly; coxa 3 rounded, bearing numerous chitinous (? stridulation) ridges along distal and posterior margins; coxa 4 very large, not posteriorly excavate; remaining coxae oval; gnathopod 1 small, subchelate, article 4 distally produced into a setose lobe, article 5 as long as 6, palm oblique, undefined; gnathopod 2 extremely large (Fig. 18A), antero-distal corners of articles 2 and 3 moderately lobed, article 5 cup-shaped, 6 tapering distally from defining angle; palm greatly exceed-

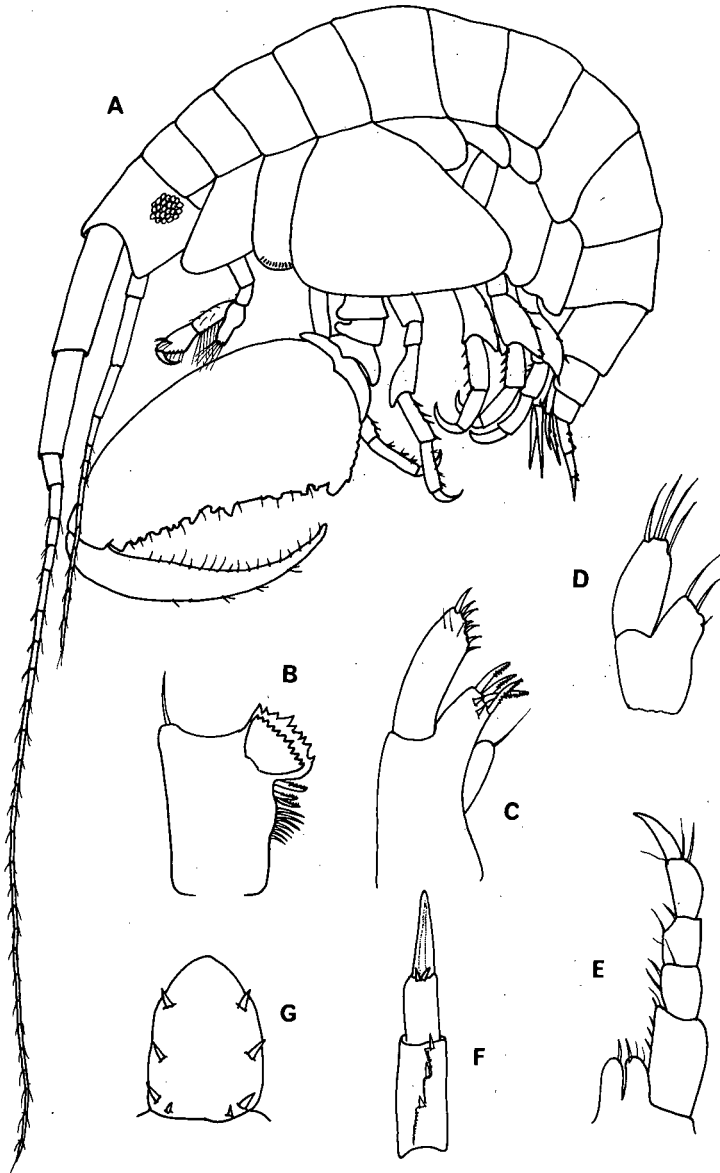


Fig. 18. *Parametopa grandimana* n. sp.
Male, 3 mm: A—lateral aspect; B—mandible; C—maxilla 1; D—maxilla 2;
E—maxilliped; F—uropod 3; G—telson.

ing hind margin, bearing about 12 small irregularly spaced teeth and scattered small setae, defined by a larger tooth, dactyl powerful, equal to palm, inner margin sparsely setose; pereopods 1–3 slender, article 2 linear, article 4 widening slightly distally; article 2 of pereopods 4 and 5 oval, article 4 expanded distally and postero-distally produced into an acute lobe bearing strong spines on both margins.

Pleonal epimera 1 and 2 rounded, 3 rounded-quadrate; peduncle of uropod 1 with two rows of 7–8 dorsal spines, rami equal, lanceolate, bearing one or two dorsal spines; uropod 2 half length of 1, outer ramus 70% length of inner, each with a single dorsal spine; peduncle of uropod 3 (Fig. 18F) with three dorsal spines, the single ramus consisting of two subequal articles, the first bearing two apical spines, the second dorsally pectinate; telson (Fig. 18G) entire, longer than broad, each lateral margin bearing one minute spine and three powerful ones.

Holotype: SAM A13216, male, 3 mm.

Type locality: SST 5F, 35°22'S/22°31'E, 20 June 1972, depth 200 m, substrate coarse khaki sand.

Relationships: Of the three existing species in this genus *P. grandimana* n. sp. can be distinguished from *P. alaskensis* (Holmes) and *P. kervillei* Chevreux by the shape and size of gnathopod 2. I have been unable to obtain a description of the third species—*P. sarniensis* (Norman)—but Chevreux & Fage, writing after Norman, state that all members of *Parametopa* known at that time have subequal antennae, a feature not consistent with the present species.

Material: SST 5F(10), SST 16K(6).

Proboloides rotunda (Stebbing, 1917)

Metopa rotundus Stebbing, 1917: 39, pl. 7A.

Records: SCD 122K(1), SCD 135L(2), SCD 159V(18), SCD 181Z(1), SCD 188F(2), SCD 198U(2), SCD 199E(2), SCD 204Y(1), SCD 211Z(1), SCD 222P(2), SCD 225N(1), SCD 345Y(3); 34°S/23°E/42 m (Stebbing 1917).

Distribution: Endemic to South Africa.

Stenothoe dolichopous K. H. Barnard, 1916

Stenothoe dolichopous K. H. Barnard, 1916: 153, pl. 26, figs 15–17.

Records: 32°S/28°E/176 m (K. H. Barnard 1916).

Diagnosis: Gnathopod 1 very elongate, articles 3 and 4 subequal, 5 equal to 2, 6 linear, shorter than 5, palm oblique, defined by two spines; articles 2 and 3 of gnathopod 2 antero-distally produced into rounded lobes, article 6 twice as long as broad, palm occupying whole posterior margin, a conical tooth at its centre, a second nearer the hinge and a large crenulate triangular process just

before the hinge; third pleonal epimeron with a minute postero-distal tooth; ramus of uropod 3 shorter than peduncle, second joint half length of first; telson oval, each lateral margin bearing three spines.

Distribution: The above record is the only one to date.

Stenothoe gallensis Walker, 1904

Stenothoe gallensis: J. L. Barnard, 1971: 120, figs 62, 63.

Records: KNY 166J, KNY 176E.

Distribution: Cosmopolitan.

Stenothoe valida Dana, 1853

Stenothoe valida: Sivaprakasam, 1967a: 373, fig. 2a-b. J. L. Barnard, 1970b: 250, fig. 165.

Records: SST 24N(1).

Distribution: Cosmopolitan in tropical and temperate seas.

Family Synopiidae

Tiron australis Stebbing, 1908

Tiron australis Stebbing, 1908a: 79, pl. 38.

Records: SCD 110T(1), SCD 131Z(2), SCD 173U(1), SCD 370T(1), SCD 373M(5); SST 34P(1), SST 37A(1), SST 37Y(1); 33°S/28°E/86 m (Stebbing 1908a).

Distribution: Endemic to Indian Ocean coast of South Africa.

Superfamily Talitroidea

(Revised J. L. Barnard 1972b)

Family Ceinidae

Afrochiltonia capensis (K. H. Barnard, 1916)

Chiltonia capensis K. H. Barnard, 1916: 244, pl. 27, figs 38-40.

Afrochiltonia capensis: K. H. Barnard, 1955: 93.

Records: HAM 11C(C); HAV 5C(1), HAV 7L(P), HAV 18L(C); KNY 112C; STJ 24E(A), STJ 27F(C).

Distribution: Endemic, Natal to Saldanha Bay.

Family Phliantidae

Palinnotus natalensis K. H. Barnard, 1940

Palinnotus natalensis K. H. Barnard, 1940: 445, fig. 22.

Records: J 11E; Y 12J.

Distribution: India, east coast of South Africa.

Plioplateia triquetra K. H. Barnard, 1916

Plioplateia triquetra K. H. Barnard, 1916: 156, pl. 26, figs 18–24.

Records: SCD 302Y(2), SCD 310F(1); 33°S/27°E/91 m (K. H. Barnard 1916).

Diagnosis: Body as broad as deep, rostrum upturned, bearing a tooth on each side; antenna 1 half length of pereon; pereon segments 1–7 and pleon segments 1 and 2 each surmounted by a dorsal carina, that of pereon segment 1 deeply bifid; each pereonite also bearing a flat horizontal backwardly-directed lateral projection; maxilla 1 with palp; maxilliped bearing 4-articulate palp; gnathopods subchelate; uropod 3 represented by an oval lobe-like peduncle, rami absent.

Distribution: Endemic to south coast of South Africa.

Temnophilias capensis K. H. Barnard, 1916

Temnophilias capensis K. H. Barnard, 1916: 158, pl. 26, figs 25–35.

Records: S 54G; SS 55B; Still Bay (K. H. Barnard 1940).

Distribution: Endemic, Still Bay to South West Africa.

Family **Talitridae**Subfamily **Hyalinae***Allorchestes inquirendus* K. H. Barnard, 1940

Allorchestes inquirendus K. H. Barnard, 1940: 477, fig. 34b–c.

Records: MB 37L(1); Port Elizabeth (K. H. Barnard 1940).

Distribution: Endemic, Port Elizabeth to South West Africa.

Hyale grandicornis Kröyer, 1845

Hyale grandicornis: K. H. Barnard, 1955: 93, fig. 46. Hurley, 1957: 904–909, figs 1–23.

Records: KNY 166A, KNY 171C; J 11G; Q 7G; L 71; X 8A; K 8J; Y 12E; T 3G; KN 2H; SS 55F; Port Elizabeth, East London (K. H. Barnard 1916); Still Bay, Plettenberg Bay (K. H. Barnard 1940).

Distribution: Indo-Pacific, South Atlantic.

Hyale macrodactyla Stebbing, 1899

Hyale macrodactyla: Ledoyer, 1972: 273, fig. 77.

Records: H 9B.

Distribution: India, Madagascar, southern Africa.

Hyale maroubrae Stebbing, 1899

Hyale maroubrae: Hurley, 1957: 913, figs 51-71.

Records: KNY 166H(1), KNY 171D.

Diagnosis: Antenna 1 extending 30% along length of flagellum of antenna 2; coxae rectangular; palm of gnathopod 1 male transverse, defining angle ridged; article 2 of gnathopod 2 male not distally lobed, palm extending whole length of article 6, bearing two rows each of eight seta-tipped spines and defined by a shallow pocket into which the dactyl closes; article 6 of pereopods 1-5 postero-distally bearing a stout striated seta-tipped spine and a flattened fusiform striated spine.

Distribution: Indo-Pacific.

Hyale saldanha Chilton, 1912

Hyale saldanha Chilton, 1912: 509, pl. 2, figs 24-29.

Records: MB 40N(2); L 38Z; E 232; AR 1Q(8).

Distribution: Endemic, East London to South West Africa.

Subfamily **Talitrinae***Orchestia ancheidos* (K. H. Barnard, 1916)

Talorchestia ancheidos K. H. Barnard, 1916: 221, pl. 27, figs 35, 36.

Orchestia ancheidos: Ruffo, 1958: 43, figs 3, 4.

Records: BMR 21E(6); HAM 4B(A); HAV 13M(1); STJ 5B(C), STJ 29F; Keurbooms River, Plettenberg Bay (K. H. Barnard 1940).

Distribution: Madagascar, Moçambique, South Africa.

Orchestia rectipalma K. H. Barnard, 1940

Parorchestia tenuis (non Dana, 1853): K. H. Barnard, 1916: 226.

Parorchestia rectipalma K. H. Barnard, 1940: 473, fig. 32.

Records: HAM 11B(C), HAM 13C(C); HAV 7J(P), HAV 18E(C), HAV 20A(C); KNY 103A, KNY 175E, KNY 179A(C), KNY 181A(A), KNY 266C(5), KNY 272A(18), KNY 273B(60), KNY 274H(4), KNY 285A(C), KNY 286B(C), KNY 294A(47); BRE 13D(3), BRE 34K(4), BRE 55E(A), BRE 56F(1), BRE 57G(4), BRE 71N, BRE 123D(8); STJ 7Q, STJ 15N(C); Keurbooms River, Plettenberg Bay (K. H. Barnard 1940).

Distribution: Endemic, Natal to South West Africa, especially in estuaries.

Talorchestia australis K. H. Barnard, 1916

Talorchestia australis K. H. Barnard, 1916: 220, pl. 27, figs 33, 34; 1940, fig. 30.

Records: GBR 13D(1).

Distribution: Endemic, South West Africa to Moçambique.

Talorchestia capensis (Dana, 1853)

Talorchestia capensis: K. H. Barnard, 1916: 216; 1940: 470, fig. 28.

Records: KNY 43A, KNY 114A(C), KNY 166B, KNY 187A; BRE 5A(6), BRE 18A(10); STJ 5A(C); Keurbooms River, Plettenberg Bay (K. H. Barnard 1940).

Diagnosis: Male gnathopod 1 with article 5 not lobed distally, article 6 weakly lobed; palm of gnathopod 2 male oblique, spinose, medially with a semicircular incision which in adults occupies almost the entire palm, dactyl with a deep semicircular concavity near its base; pleonal epimera postero-distally rounded, their posterior margins distinctly crenulate.

Distribution: Mediterranean, Atlantic, south coast of South Africa.

Talorchestia inaequalipes K. H. Barnard, 1951

Talorchestia inaequalipes K. H. Barnard, 1951: 705, fig. 5a-b.

Records: KNY 113A(C), KNY 162B.

Diagnosis: Eyes dorsally separated by more than their diameter; coxa 2 not lobed posteriorly; articles 5 and 6 of gnathopod 1 male apically lobed; palm of gnathopod 2 male oblique, spinose, defined by a small pelucid lobe; article 2 of pereopod 5 weakly serrate posteriorly, articles 4 and 5 strongly expanded in male, oar-like; hind margins of pleonal epimera distinctly serrate, postero-distal corners quadrate.

Distribution: Endemic, Knysna to Saldanha Bay.

Suborder CAPRELLIDEA

Family Aeginellidae

Eupariambus fallax K. H. Barnard, 1957

Eupariambus fallax K. H. Barnard, 1957: 9, fig. 6.

Records: SST 29D(2), SST 45E(3).

Diagnosis: Antenna 1 without swimming setae; mandible with molar and 3-articulate palp; branchiae on segments 3 and 4; palm of gnathopod 2 with a large acute tooth at its centre; pereopods 1 and 2 absent, pereopod 3 reduced to a 2-articulate rudiment terminating in four or five setae; abdomen of male with one pair of rudimentary appendages.

Distribution: Endemic, Still Bay to west coast of South Africa.

Metaprotella macrodactylos Stebbing, 1910

Metaprotella macrodactylos Stebbing, 1910a: 469, pl. 48A.

Records: 33°S/26°E/18–29 m (Stebbing 1910a).

Distribution: Endemic, Natal to Port Elizabeth.

Orthoprotella mayeri K. H. Barnard, 1916

Orthoprotella mayeri K. H. Barnard, 1916: 284; 1925: 372.

Records: SCD 3U(2), SCD 60M(3), SCD 122J(2), SCD 160L(2), SCD 181G(11), SCD 204N(4), SCD 319Y(3); SST 11T(7), SST 18W(1), SST 24B(4), SST 37Q(2); 33°S/27°E/100 m, 34°S/22°E/86 m (K. H. Barnard 1916); Algoa Bay 184 m, 33°S/28°E/180 m, 34°S/25°E/133 m, 34°S/23°E/148 m (K. H. Barnard 1925).

Distribution: Indo-Pacific.

Pseudaeginella tristanensis (Stebbing, 1888)

Pseudaeginella tristanensis: Stephensen, 1949: 52, fig. 23.

Records: SCD 160K(1), SCD 181Z; L 455; East London (K. H. Barnard 1940).

Distribution: Tristan da Cunha, South Africa.

Family Caprellidae

Caprella cicur Mayer, 1903

Caprella cicur Mayer, 1903: 75, 97, pl. 4, figs 5-7, pl. 8, figs 3-5.

Records: SCD 202H(1), SCD 248L(1); J 11C; LLL 6C; Port Elizabeth 24-27 m, 33°S/26°E/18-29 m (Stebbing 1910a).

Distribution: Endemic, Natal to west coast of South Africa.

Caprella danilevskii Czerniavski, 1868

Caprella danilevskii: McCain, 1968: 22-25, figs 10, 11.

Records: J 11C; L 500; K 8H; E 236.

Distribution: Widespread, pantropical.

Caprella equilibra Say, 1818

Caprella equilibra: McCain, 1968: 25-30, figs 12, 13.

Records: SCD 179K(1), SCD 189T(6), SCD 192W(65), SCD 198G(1), SCD 244E(9), SCD 282U(4), SCD 283F(1), SCD 312N(35), SCD 329Y(1), SCD 338J(5), SCD 353L(1), SCD 379H(6); MB 37K(6), MB 54W(1); KNY 28B; Port Elizabeth (K. H. Barnard 1916).

Distribution: Cosmopolitan.

Caprella natalensis Mayer, 1903

Caprella penantis (non Leach, 1814): Stebbing, 1910a: 465.

Caprella natalensis: Laubitz, 1972: 47, pl. 9, figs F, G, pl. 10, figs F-K.

Records: Port Elizabeth 24-27 m (Stebbing 1910a).

Distribution: Southern Africa, Tristan da Cunha, Pacific coast of North America.

Caprella penantis Leach, 1814

Caprella penantis: McCain, 1968: 33–40, figs 15, 16.

Records: MB 41J(1); D 272; L 335, L 455B; Y 12D.

Distribution: Cosmopolitan in tropical and temperate seas.

Caprella scaura Templeton, 1836

Caprella scaura: McCain, 1968: 40–44, figs 17, 18.

Records: MB 50U(5).

Distribution: Cosmopolitan.

Caprella triodous Stebbing, 1910

Caprella triodous Stebbing, 1910a: 467, pl. 48B.

Records: SCD 141W(1); 33°S/25°E/24–27 m (Stebbing 1910a).

Diagnosis: Head without rostrum; flagellum of antenna 1 12-articulate; antenna 2 shorter than peduncle of antenna 1; no spine between bases of second gnathopods; article 6 of gnathopod 2 elongate, distally widening, palm divided into three very large teeth; pereopods 3 and 4 each with a pair of serrate-ended clasping spines.

Distribution: Endemic to south coast of South Africa.

Hemiaegina minuta Mayer, 1890

Hemiaegina minuta: McCain, 1968: 61–64, figs 29, 30.

Records: SCD 179L(1); L 61A.

Distribution: Cosmopolitan in tropical and temperate seas.

Family Phtisicidae

Caprellina longicollis (Nicolet, 1849)

Caprellina longicollis: McCain, 1969: 289, fig. 2.

Records: L 455A; 33°S/26°E/18–29 m, Port Elizabeth 24–27 m (Stebbing 1910a).

Distribution: Mediterranean, southern oceans.

Caprellina spiniger K. H. Barnard, 1916

Caprellina spiniger K. H. Barnard, 1916: 282, pl. 28, fig. 35.

Records: MB 50V(1).

Distribution: Endemic, Mossel Bay to Lüderitz.

Chaka leoni Griffiths, 1974

Chaka leoni Griffiths 1974b: 258, figs 7, 8.

Records: SCD 59E(1).

Distribution: Endemic to east and south coasts of South Africa.

Phtisica marina Slabber, 1769

Phtisica marina: K. H. Barnard, 1916: 283. McCain, 1968: 91-97, fig. 46.

Records: SCD 24P(1), SCD 135H(1), SCD 159T(4), SCD 160J(2), SCD 181H(7), SCD 188E(3), SCD 192X(10), SCD 216J(1), SCD 232G(4), SCD 345Z(2), SCD 347C(1); SST 11S(13), SST 29C(1); 34°S/23°E/84 m (K. H. Barnard 1916).

Distribution: Mediterranean, Black Sea, Atlantic, southern Africa.

SUMMARY

An account is presented of the known gammaridean and caprellid amphipod fauna of the Cape Province of South Africa east of 20°E (Cape Agulhas). The vast majority of the records has been derived from the extensive estuarine, littoral and benthic collections amassed by the University of Cape Town Ecological Survey, and with these have been incorporated all previous records from the literature. The collections total in excess of 12 000 individuals and from these 173 species have been recognized. Fourteen of the species and two genera are presented here as new to science. These are *Dikwa acrania* n. gen., n. sp. (Acanthonotozomatidae); *Ampelisca acris* n. sp.; *Colomastix keiskama* n. sp.; *Concholestes armatus* n. sp.; *Neomicrodeutopus nyala* n. sp.; *Cunicus profundus* n. gen., n. sp. (Haustoriidae); *Urothoe platypoda* n. sp.; *Parajassa chikoa* n. sp.; *Liljeborgia palmata* n. sp.; *Listriella sinuosa* n. sp.; *Lepidepecreum twalae* n. sp.; *Uristes sulcus* n. sp.; *Westwoodilla manta* n. sp. and *Parametopa grandimana* n. sp. In addition two species, *Stomacontion prionoplax* Monod and *Podocerus hystrix* Stebbing, are recorded for the first time from southern Africa. A fusion of the Lysianassid genera *Stomacontion* and *Acontistoma* is advocated.

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Style manual for biological journals. Washington: American Institute of Biological Sciences.

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To be governed by the rulings of the latest *International code of zoological nomenclature* issued by the International Trust for Zoological Nomenclature (particularly articles 22 and 51). The Harvard system of reference to be used in the synonymy lists, with the full references incorporated in the list at the end of the article, and not given in contracted form in the synonymy list.

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Scalaria coronata Lamarck, 1816: pl. 451, figs 5 *a*, *b*; Liste: 11. Turton, 1932: 80.

C. L. Griffiths

THE AMPHIPODA OF SOUTHERN AFRICA

PART 4

THE GAMMARIDEA AND CAPRELLIDEA OF
THE CAPE PROVINCE EAST OF CAPE AGULHAS